Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: El Sahly HM, Baden LR, Essink B, et al. Efficacy of the mRNA-1273 SARS-CoV-2 vaccine at completion of blinded phase. N Engl J Med. DOI: 10.1056/NEJMoa2113017

Supplement

Table of Contents

COVE Study Group (pubmed listed, and ordered alphabetically by institution affiliation)

Affiliation/Funding*	Study Group	Location
AB Clinical Trials	Atoya Adams, MD, MBA, Eric Miller	Las Vegas, NV
Accel Research Sites	Bruce G. Rankin DO, John Hill MD, Steven Shinn MD, Marshall Nash MD	DeLand, FL
Advanced Clinical Research	Sinikka L. Green MD, Colleen Jacobsen, Jayasree Krishnankutty, Sikhongi Phungwayo	Cedar Park, TX
Alliance for Multispecialty Research	Richard M. Glover, II MD, Drs. Stacy Slechta, Troy Holdeman, Robyn Hartvickson, Amber Grant	Newton, KS
Alliance for Multispecialty Research	Terry L. Poling MD, Terry D. Klein MD, Thomas C. Klein MD, Tracy R. Klein MD	Wichita, KS
Alliance for Multispecialty Research	William B. Smith MD, Richard L. Gibson MD, Jennifer Winbigler MD, Elizabeth Parker PA	Knoxville,TN
Baptist Health Center for Clinical Research	Priyantha N. Wijewardane, MD, Eric Bravo MD, Jeffrey Thessing MD, Michelle Maxwell APRN, Amanda Horn APRN	Little Rock, AR
Baylor College of Medicine, NIAID 1UM1AI148575-01S2	Hana El Sahly MD, Jennifer Whitaker MD, Catherine Mary Healy MD, Christine Akamine MD	Houston, TX
Benchmark Research	Laurence Chu, MD, R. Michelle Chouteau, MD	Austin, TX
Benchmark Research	Michael J. Cotugno MD, George H. Bauer, Jr. MD	Metairie, LA
Benchmark Research	Greg Hachigian MD, Masaru Oshita MD, Michael Cancilla NP, Deborah Murray NP, Kristen Kiersey NP	Sacramento, CA
Benchmark Research	William Seger MD, Mohammed Antwi, Allison Green, Anthony Kim	Fort Worth, TX
Brigham and Women's Hospital, NIAID UM1AI069412, NCATS UL1RR025758	Lindsey R Baden MD, Michael Desjardins MD, Jennifer A Johnson MD, Amy Sherman MD, Stephen R Walsh MD	Boston, MA
Carolina Institute for Clinical Research	Judith Borger DO, Ryan Starr DO, Scott Syndergaard DO, Nafisa Saleem MD	Fayetteville, NC
Centex Studies	Joel Solis MD, Martha Carmen Medina PA-C, Westly Keating PA-C, Edgar Garcia PA-C, Cynthia Bueno PA-C	McAllen, TX
Clinical Research Atlanta	Nathan Segall MD, Nathan Segall, Jon Finley, Mildred Stull	Stockbridge, GA
Clinical Trials of Texas	Douglas Scott Denham DO, Thomas Weiss MD, Ayoade Avworo DNP, Parke Hedges MD	San Antonio, TX
Coastal Carolina Research Center	Cynthia Becher Strout MD, Rica Santiago, Yvonne Davis, Patty Howenstine, Alison Bondell	Mount Pleasant, SC
Cornell Clinical Trials Unit - Weill Cornell Uptown & Weill Cornell Chelsea, NIAID UM1AI068619, NCAT UL1TR002384	Kristin Marks MS MD, Grant Ellsworth, MS, MD, Tina Wang, MD, Timothy Wilkin, MD, MPH, Mary Vogler, MD, Carrie Johnston, MD, MS	New York, NY
Covid19 Prevention Network (CoVPN, NIAID-NIH)	Michele P Andrasik, Jessica G Andriesen, Gail Broder, Lawrence Corey, Niles Eaton, Kathleen M Neuzil, Huub G Gelderblom, James G Kublin, Rachael McClennen, Nelson Michael, Merlin Robb, Carrie Sopher	Seattle, WA
DM Clinical Research	Vicki E. Miller MD, MPH, Fredric Santiago MD, Blanca Gomez FNP-C, Insiya Valika PA-C, Amy Starr FNP-C	Tomball, TX
Emory University – Ponce de Leon Clinical Research Site, NIAID 3UM1AI068614-14S1	Colleen Kelley MD MPH, Valeria D Cantos MD, Sheetal Kandiah MD MPH, Carlos del Rio MD	Atlanta, GA
Emory University – Hope Clinic, NIAID 1UM1AI148576-01	Nadine Rouphael MD, Paulina Rebolledo, Srilatha Edupuganti, Daniel Sans Graciaa	Decatur, GA
Emory University School of Medicine, NIAID 1UM1AI148576-01	Evan J Anderson MD, Andres Camacho-Gonzalez MD, Satoshi Kamidani MD, Christiana A Rostad MD, Meghan Teherani MD	Atlanta, GA
George Washington University, NIAID UM1AI068619	David Joseph Diemert MD, Elissa Malkin, Marc Siegel, Afsoon Roberts, Gary Simon	Washington, DC
Hackensack University Medical Center	Bindu Balani MD, Carolene Stephenson, Steven Sperber, Cristina Cicogna	Hackensack, NJ
Henry Ford Health System	Marcus J. Zervos MD, Paul Kilgore MD, MPH, Mayur Ramesh MD, Erica Herc MD, Kate Zenlea MPH	Detroit, MI
Hope Research Institute	Abram Burgher MD, Ann Marie Milliken	Phoenix, AZ
Hope Research Institute	Joseph D. Davis MD, Brendan Levy, Sandra Kelman	Chandler, AZ
Hope Research Institute	Matthew W. Doust MD, Denise Sample, Sandra Erickson	Phoenix, AZ

Affiliation/Funding*	Study Group	Location
J. Lewis Research	Shane Glade Christensen MD, Christopher Matich, James Longe, John Witbeck	Salt Lake City, UT
J. Lewis Research	James Todd Peterson MD, Alexander Clark, Gerald Kelty, Issac Pena-Renteria	Salt Lake City, UT
Jacksonville Center for Clinical Research	Michael J. Koren MD, Darlene Bartilucci MD, Jeffery Jacqmein MD, Alpa Patel MD, Carolyn Tran MD	Jacksonville, FL
Javara	Christina Kennelly MD, Robert Brownlee, Jacob Coleman, Hala Webster	Charlotte, NC
Johnson County Clin-Trials	Carlos A. Fierro MD, Natalia Leistner, Amy Thompson, Celia Gonzalez	Lenexa, KS
Kaiser Permanente Washington Health Research Institute, NIAID 1UM1AI148373-01	Lisa A Jackson MD MPH, Janice Suyehira MD	Seattle, WA
Laguna Clinical Research Associates	Milton Haber MD, Maria M. Regalado MD, Veronica Procasky RN JD, Alisha Lutat	Laredo, TX
Lynn Health Science Institute	Carl P. Griffin MD, Raymond Cornelison, William Schnitz, Shanda Gower	Oklahoma City, OK
Lynn Institute of the Rockies	Ripley R. Hollister MD, Jeremy Brown DO, Melody Ronk PA-C	Colorado Springs, CO
M3 Wake Research	Wayne Lee Harper MD, Lisa Cohen DO, Lynn Eckert PA-C, Matthew Hong MD	Raleigh, NC
MediSync Clinical Research Hattiesburg Clinic	Rambod Rouhbakhsh MD, MBA, Elizabeth Danford MD, John Johnson MD, Richard Calderone MD	Petal, MS
Meridian Clinical Research	Shishir Kumar Khetan MD, Oyebisi Olanrewaju AC-CRNP, Nan Zhai NP-C, Kimberly Nieves AC-CRNP, Allison O'Brien AC-CRNP	Rockville, MD
Meridian Clinical Research	Paul Simon Bradley MD, Amanda Lilienthal MSN NP-C, Jim Callis PA-C	Savannah, GA
Meridian Clinical Research	Adam Benson Brosz MD, Andrea Clement PA, Whitney West APRN, Luke Friesen PA, Paul Cramer APRN	Grand Island, NE
Meridian Clinical Research	Frank Steven Eder MD, Ryan Little FNP, Victoria Engler FNP, John Tarbox FNP, Heather Rattenbury-Shaw DO	Binghamton, NY
Meridian Clinical Research	David Jon Ensz MD, Tavane Harrison, Allie Oplinger	Dakota Dunes, SD
Meridian Clinical Research	Brandon James Essink MD, Jay Meyer MD, Frederick Raiser, III MD, Kimberly Mueller APRN, Roni Gray PA	Omaha, NE
Meridian Clinical Research	Keith William Vrbicky MD, Charles Harper MD, Chelsie Nutsch MD, Wendell Lewis III MD, Cathy Laflan MD	Norfolk, NE
Meridian Clinical Research	Jordan L. Whatley MD, Nicole Harrell MD, Amie Shannon MD, Crystal Rowell APRN, FNP-C, Christopher Dedon APRN, FNP-C	Baton Rouge, LA
NIH	Mamodikoe Makhene MD MPH	Bethesda, MD
New Horizons Clinical Research	Gregory Mark Gottschlich MD, Kate Harden PA-C, Melissa Gottschlich PA-C, Mary Smith MSN, FNP-C, Richard Powell MD	Cincinnati, OH
Optimal Research	Murray A. Kimmel DO, Simmy Pinto MD	Melbourne, FL
Optimal Research	Timothy P. Vachris MD, Mark Hutchens MD, Stephen Daniels DO, Margaret Wells MD	Austin, TX
Optimal Research	Mimi Van Der Leden MD, PhD, Peta Gay Jackson Booth MD	Rockville, MD
Palm Beach Research Center	Mira Baron MD, Pamela Kane DO, Shannen Seversen PA-C, Mara Kryvicky PA-C, Julia Lord PA-C	West Palm Beach, FL
Paradigm Clinical Research Center	Jamshid Saleh MD, Matthew Miles, Rafael Lupercio	Redding, CA
Quality of Life Medical & Research Centers	John W. McGettigan Jr. MD, Walter Patton MD, Riemke Brakema MD, Karin Choquette MSN, ABNP-C, Jonlyn McGettigan MSN, RN	Tucson, AZ
Rancho Paseo Medical Group	Judith L. Kirstein MD, Marcia Bernard NP	Banning, CA
Rapid Medical Research	Mary Beth Manning MD, Joan Rothenberg MD, Toby Briskin MD, Denise Roadman PAC, Sharita Tedder-Edwards FNP	Cleveland, OH
Research Centers of America	Howard I. Schwartz MD, Surisday Mederos, Barbara Corral, Jennifer Schwartz, Nelia Sanchez-Crespo	Hollywood, FL
Rutgers New Jersey Medical School, NIAID UM1AI068619	Shobha Swaminathan MD, Amesika Nyaku MD MS, Tilly Varughese MD, Michelle DallaPiazza MD	Newark, NJ
Saint Louis University, NIAID 1UM1AI148685-01	Sharon E Frey MD, Irene Graham MD, Getahun Abate MD PhD MSc, Daniel Hoft MD PhD	St. Louis, MO
St. Vincent's Health System	Leland N. Allen III MD, Leslie Anne Edwards MSN, CRNP, William Simpson Davis Jr., MS PA-C, Jessica Maria Mena, PA	Birmingham, AL

Affiliation/Funding*	Study Group	Location
Suncoast Research Group	Mark E. Kutner MD, Jorge Caso MD, CPI, Maria Hernandez Moran APRN, Marianela Carvajal APRN, Janet Mendez APRN	Miami, FL
Sundance Clinical Research	Larkin T. Wadsworth III MD, Horacio Marafioti, Lyly Dang, Jennifer Berry, Lauren Clement	St. Louis, MO
Synexus Clinical Research	Michael Ryan Adams MD, Leslie Iverson PA	Murray, UT
Synexus Clinical Research	Joseph Lee Newberg MD, Laura Pearlman MS, MD, MBA	Chicago, IL
Synexus Clinical Research	Paul Joseph Nugent DO, Leonard Singer	Cincinnati, OH
Synexus Clinical Research	Michele Diane Reynolds MD, Jennifer Bashour MD, Robert Schmidt MD	Dallas, TX
Synexus Clinical Research	Neil Parmanand Sheth MD, Kenneth Steil DO	Glendale, AZ
Synexus Clinical Research	Ramy Joseph Toma MD, William Kirby MD, Pink Folmar MD, Samantha Williams NP	Birmingham, AL
Synexus Clinical Research	Judith White MD, Robert Meyer MD, Sejal Patel MD, Prity Patel APRN	Orlando, FL
Tekton Research	Paul Pickrell MD, Stefanie Mott FNP-C, Carol Ann Linebarger MD, Hussain Malbari MD, David Pampe MD	Austin, TX
Texas Center for Drug Development	Veronica G. Fragoso MD, Lisa Holloway MD, Cecilia McKeown-Bragas MD, Teresa Becker MD, Vicki Miller MD	Houston, TX
Trial Management Associates	Barton G. Williams MD, William H. Jones MD	Wilmington, NC
VA Greater Los Angeles Healthcare System	Michael Lewis MD, Elham Ghadishah, Joseph Yusin, Mai Pham	Los Angeles, CA
University of California Los Angeles, NIAID UM1AI068619	Jesse L Clark MD, Steven Shoptaw PhD, Michele Vertucci PA, NP, Will Hernandez NP	Los Angeles, CA
University of California San Diego, NIAID UM1AI068636	Stephen A. Spector MD, Amaran Moodley MD, Jill Blumenthal MD, Lisa Stangl NP, Karen Deutsch NP	La Jolla, CA
University of Chicago	Kathleen M. Mullane DO PharmD, David Pitrak MD, Cheryl Nuss FNP, Judy Pi PharmD	Chicago, IL
University of Cincinnati, NIAID UN1AI068619	Carl Fichtenbaum MD, Margaret Powers-Fletcher PhD, Michelle Saemann RN, Sharon Kohrs RN	Cincinnati, OH
University of Colorado Denver, Anschutz Medical Campus, NIAID UM1AI068636	Thomas B. Campbell MD, Andrew Lauria, Jose Castillo Mancilla, Hillary Dunlevy	Aurora, CO
University of Illinois at Chicago – Project WISH, NIAID UM1AI068619	Richard M Novak MD, Andrea Wendrow, Scott Borgetti, Ben Ladner	Chicago, IL
University of Maryland School of Medicine, NIAID 1UM1AI148689-01	Karen L Kotloff MD, Matthew Laurens, Milagritos Tapia, Lisa Chrisley, Cheryl Young	Baltimore, MD
University of Miami, NIAID 3UM1AI068614-14S1	Susanne Doblecki-Lewis MD, Maria Luisa Alcaide, Jose Gonzales-Zamora, Stephen Morris	Miami, FL
University of North Carolina at Chapel Hill, NIAID UM1AI068619	Cynthia Gay MD MPH, David Wohl MD, Joseph Eron, Jr. MD	Chapel Hill, NC
University of Pennsylvania, NIAID 3UM1AI068614-14S1	Ian Frank MD, Debora Dunbar, David Metzger, Florence Momplaisir	Philadelphia, PA
University of Pittsburgh Medical Center, NIAID 1UM1AI148452-01	Judith Martin MD, Alejandro Hoberman MD, Timothy Shope MD MPH, Gysella Muniz MD	Pittsburgh, PA
University of Texas Medical Branch, NIAID 1UM1AI148575-01	Richard Rupp MD, Amber Stanford PA-C, Megan Berman MD, Laura Porterfield MD	Galveston, TX
VA Greater Los Angeles Healthcare System	Michael Lewis MD, Elham Ghadishah, Joseph Yusin, Mai Pham	Los Angeles, CA
Vanderbilt University Medical Center, NIAID 1UM1AI148452-01	Clarence Buddy Creech II MD, Shannon Walker MD, Stephanie Rolsma MD PhD, Robert Samuels, Isaac Thomsen MD	Nashville, TN
Vanderbilt University Medical Center, NIAID 3UM1AI068614-14S1	Spyros Andrews Kalams MD, Greg Wilson MD	Nashville, TN
Velocity Clinical Research	Gregg H. Lucksinger MD, Kevin Parks MD, Ryan Israelsen MD, Jaleh Ostovar FNP-C, Kary Kelly FNP-C	Medford, OR
Velocity Clinical Research, San Diego	Jeffrey Scott Overcash MD, Hanh Chu, Kia Lee, Karla Zepeda	La Mesa, CA
VitaLink Research	Luis I. De La Cruz MD, Steve Clemons, Elizabeth Everette, Suzanna Studdard	Greenville, SC
VitaLink Research	Gowdhami Mohan MD, Stefanie Tyson, Alyssa-Kay Peay, Danyel Johnson	Anderson, SC

Affiliation/Funding*	Study Group	Location
VitaLink Research-Spartanburg	Gregory J. Feldman MD, May-Yin Suen, Jacqueline Muenzner, Joseph Boscia, Farhan Siddiqui	Spartanburg, SC
Wake Forest University Health Sciences	John Sanders MD,PhD, James Peacock MD, Julio Nasim MD	Winston Salem, NC
WR-Clinical Research Center of Nevada	Michael L. Levin MD, Julie Hussey MSN APRN FNP-C, Marcy Kulic MD	Las Vegas, NV
WR-ClinSearch	Mark Montgomery McKenzie MD, Teresa Deese, Erica Osmundsen, Christy Sweet	Chattanooga, TN
WR-Global Medical Research	Valentine Mbepson Ebuh MD MA MSc, Elwaleed Elnagar MD, Georgette Ebuh DNP APRN FNP-C, Genevieve Iwuala FNP	Dallas, TX
WR-Medical Center for Clinical Research	Laurie J. Han-Conrad MD, Todd Simmons MD, Denis Tarakjian MD	San Diego, CA

*Funding of institutions by the National Institute of Allergy and Infectious Diseases (NIAID) and/or research support by the National Center for Advancing Translational Science (NCATS) as indicated. All other institutions were funded by Office of the Assistant Secretary for Preparedness and Response, Biomedical Advanced Research and Development Authority. The content of this publication is solely the responsibility of the authors and does not necessarily represent the official views of the funding sources.

List of COVE Trial Investigators and Study Teams

Principal Investigator	Study Team	Institution	Location
Atoya Adams, MD, MBA	Miriah Campbell, Eric Miller, Daisy Langarica, Alia Bober, Diana Giraldo	AB Clinical Trials	Las Vegas, NV
Michael Ryan Adams, MD	Leslie Iverson, Andryelle Toledo, Melinda Bullington, Alicia Hanten, Carolyn Taylor, Shannon Wright, Chase Carnahan, Rachel Law, Natalie Smith, Julie Taylor, Jared-Robert Blake, Stefanie Vasconez, Courtney Jensen	Synexus Clinical Research	Murray, UT
Leland N. Allen III, MD	Leslie Anne Edwards, William Simpson Davis, Jr., Ronald Meza, Jordan Stauffer, John Farringer, Faith Holmes, Rhonda Buzbee, Cristina Velez, Huse Lisa, Lisa Huse, Camelia Speegle, Gregory Prestage, Mary Perez, Jessica Space, Matthew Todd, Jessica McDowell, Marha Bunnell-Pollak, Jackie Ziegler, Jasmine Ali, Dumitru Sirbu, Kellie Williams, Logan Sawyer, Richelle Chambliss, Samantha Blackmon, Stephanie Brennan, Tiffany Gibbs, Alexandria Anderson, Caitlin Roll, Candace Robinson, Zachary McCoy, Jessica Bartlett, Kimberly Cornelison, Chris Bovell, Vincent Baglini, Christy Greenhalgh, Jessica Maria Mena, David House, Matt Honold, Esteban Zurita	St. Vincent's Health System	Birmingham, AL
Evan J. Anderson, MD	Kathleen Stephens, Francine Dyer, Maya Stagg, Aaliyah Carron, Austin Lu, Julia Barton, Sy Tran, Leisa Bower, Esther Park, Jianguo Xu, Rebecca Gonzalez, Vy Ngo, Mike Shepard, Lezly Roxxette Zepeda, Karen Sytsma, Sandra Rojas-Honan, Felicia Glover, Susan Rogers, Theda Gibson, Christina A. Rostad, Andres Camacho-Gonzalez, Teresa Ball, Satoshi Kamidani, Mehgan Farah Teherani, Vikash Patel, Etza Peters, Peggy Kettle, Lisa Macoy, Cindy Lubbers, Amber Samuel, Laila Hussaini, Kathryn Zaks, Caroline Ciric, Meg Taylor, Oliver Smith, Amy Muchinsky, Sydney Biccum, Laura Clegg, Dean Kleinhenz, Angelle Ijeoma, Hannah Huston	Emory University School of Medicine	Atlanta, GA
Lindsey Baden, MD	Xhoi Mitre, Jon Gothing, Bruce Bausk, Jessica Cauley, Natalie Izaguirre, Lewis Novack, Michael Seaman, Katherine Yanosick, Henry Rutherford, Junghyun Kim, Dominique Betterbed, Kathleen Garvey, Lauren Clore, Alexander Mills, Deepesh Duwadi, Alessandra Setaro, Kyl Bowman, Kevin McManus, Sidali Beriane, Fadi Ghantous, Christy Lavine, Jasper Ophel, Joseph Sapiente, Jessica Dorning, Tessa Speidel, Lauren Garneau, Robert Dannemiller, Kirquenique Rolle, Mulika Chhorn, Bailey McCarthy, Hana Flaxman, Milenko Tanasijevic, Cameron Nutt, Javier Barria, Andre Avila-Paz, Buteau Malhaika, Tong Alexandra, Tenaizus Woods, Bethany Evans, Hannah Jin, LaKeisha Gandy, Stephanie St. Pierre, Carolyn Darcy, Michael Corrado, James Maguire, Adetoun Okenla, Tamara Roldon Sevilla, David Kubiak, Cassandre Titus, Movita Harrigan, Maria Alvarado, Rose Theodat, Amy Sherman, Laura Platt, Kirsten Goodman, Laura Nicholson, Wilfredo Matias, Emily Koleske, Ruth Rodriguez, Nicole Taikeff, Jun Bai Park Chang, Julia Klopfer, Phoebe Cunningham, Elizabeth Sampson, Karen Magsipoc, Maureen Macgowan, Lauren Donahue, Haley Schram, Noah Abasciano, Megan Powell, Janet Morgan, Yazed Alsowaida, Olivia Riccardi, Neha Limaye, Virginia Loudermilk, Austin Kim, Kevin Zinchuk, Caitlin Grant, Charles Kelly, David Mellace, Jamie Myers, Erika Gribb, Jose Licona, Monica Feeley, Stephen R Walsh, Jennifer A Johnson, Ann Woolley, Alexis Liakos, Jane Kleinjan, Jon Gothing, Nicolas Issa, Michael Desjardins, Raphael Dolin, Alka Patel, Opeyemi Talabi, Christin Price, Paulette Chandler, Elizabeth W Karlson, Allison P Moriarty	Brigham and Women's Hospital	Boston, MA
Bindu Balani, MD	Smith Kerowyn, Sergio Garcia, Charo Valdez, Shelly Chin, Caitlin DiBello, Silvia Lara, Chika Ekweghariri, Abena Roberts, Abimbola Coker, Marie-Therese Estanbouli, Greg Eskinazi, Michael Tortoriello, Jay Elkareh, Meral Karakoc, Olga Spathis, Patrice Hassoun, Carolene Stephenson, Steven Sperber, Kaur Harveen, Cristina Cicogna, Ciaran Mannion	Hackensack University Medical Center	Hackensack, NJ
Mira Baron, MD	Pamela Kane, Maria Bermudez, Shannen Seversen, Mara Kryvicky, Julia Lord, Terri Barr, Daisy Acevedo, Elena Acosta, Delta Anderson, Alexandra Arango, Anne Bauer, Joshua Egbehor, Tim Flanary, Audrey Haber, Carol Henao, Patti Isaacson, Peter Jacob, Sakaiya Jackson, Karen Kodes, Ludovic La-Branche, Kimarie Lee-Russell, Carol Liso, Cristina Liso, Stephanie Morse, Michelle Navarrette, Christy Norcross, Nora Norcross, Annette Pitts, Mary Sergalis, David Scott, Tytiana Spearman, Danielle Theodore, Brian Thomas, Jennifer Torres	Palm Beach Research Center	West Palm Beach, FL
Judith Borger, DO	Jennifer Angell, Nicole Austin, Deanna Benz, Lucian Cappoli, Nicole Davis, Lynn Eckert, Kathryn Hostetter, Stephanie Keating, Jeanette Mangual-Coughlin, Avia McClain-Stocker, Ifeanyi Momodu, Cheryl Norris, Brennan Opanasenko, Stacey Saldua, Nafisa Saleem, Amy Sheets, Ryan Starr, Scott Syndergaard, Jennifer Thomas, Michelle Wallace, Jeffery Pemberton, Mitchell Arildsen, Dan Tomita	Carolina Institute for Clinical Research	Fayetteville, NC
Paul Simon Bradley, MD	Taja Adams, Stephanie Ailey, Kira Bell, Shanice Bennett, Vincent Bernades, Jim Callis, Bounphone Chanthavong. Taryn Collett, Anne Crouch, Shannon Davis, Morgan Deal, Mimi Duncan, Brandon Essink, Laura Falcone, Debra Gabrielson, Brooke Halpern, Anyfa Hanna, Cassie Heisey, Dawn Kalloniatis, Andrew Kimball, Jeanette Lee, Amanda Lilienthal, Ginny McNew, Crystal Neely, Kay Lynn Olmsted,	Meridian Clinical Research	Savannah, GA

Principal Investigator	Study Team	Institution	Location
	Nicole Osborn, Chevon Roberts, Pechoka Sanders, Cynthia Seedorf, Kathryn Stoddard, Jonathan Whelan, Stella Yoon		
Adam Benson Brosz, MD	Rhonda Richter, Debra Gabrielson, Kayla Flege, Ashley Bell, Karen Jo Johnson, Paul Cramer, Jessica Stanton, Andrea Clement, Whitney West, Laura Falcone, Amanda Friesz, Kathy Osborne, Summer Tophoj, Kimber Breeden, Susan Newman, Douglas Herbek, Lindsey Mettenbrink, Luke Friesen, Alison Pierce	Meridian Clinical Research	Grand Island, NE
Abram Burgher, MD	Stephanie Catanzaro, Shauna Harrell, Magen Hess, Nate Alderson, Bettie D'Nise Corcoran, Norma Frederick, Adrian Alejo, Brian DeCraene, Karen Wakefield, Scarlett Hammett, Susan DeCraene, Ann Marie Milliken, Neil Pearson, Donald Terral Harper	Hope Research Institute	Phoenix, AZ
Thomas B. Campbell, MD	Andrew Lauria, Jenelynn Kimble, Steven Johnson, Matin Krsak, Andrew Monte, Patrisha Adkins, Michelle Barron, Suzanne Fiorillo, Amy Harrison, Anderson Victoria, Nga Le, Sara Berech, Jose Castillo-Mancilla, Kristine Erlandson, Laurel Ware, Josie Marshall, Stephen Bartlett, Hillary Dunlevy	University of Colorado Denver, Anschutz Medical Campus	Aurora, CO
Shane Glade Christensen, MD	Christopher Mickelson, Jessica Shaw, Emily Raming, Amy Nelson, Gabrielle Lewis, Jenessa Folsom, Mikaela Jones, Dylan Owen, Rachel Pugmire, Jennifer Bradley, Annjanette Kemp, Krista Marti, Allyson Christensen, Madison Ellis, Holly Anderson, Emily Bloomquist, Ross Brunetti, Thomas Conner. Jr., Gina Cox, Diana Grazulis, Wesley Lewis, James Longe, Christopher Matich, Bryan Nelson, Sarah Scott, John Witbeck, Stephen Wood	J. Lewis Research	Salt Lake City, UT
Laurence Chu, MD	Jennifer Bacchi, Maria Barrientes, Lamar Box, Christian Casas, R. Michelle Chouteau, Katherine Davis, Tambra Dora, Cindy Duran, Pamela Fidler, Ruth Fitch, Brooke Harris, Isaiah Knight, Jennifer Leyva, Michelle Listz, Jennifer Montes, Javier Perez, Jessica Ruff, Dean Skiles, Sean Turnbow, Francesca Vigil, Breana Wade, Kelly Weber	Benchmark Research	Austin, TX
Jesse L. Clark, MD	Sandy MacNicoll, Somaieh Talebi, Timothy Hall, Steven Shoptaw, Emery Chang, Michael Li, David Goodman, Paul Adamson, Oladunni Adeyiga, Inez Bentancourt, Susan Reed, Christopher Blades, Jasmin Tavares, Demetria Villanueva, Simone Riley, Jonathan Veloz, Schuyler Thomas, Will Hernandez, Jennifer Baughman, Mitchell Stern, Michele Vertucci	University of California, Los Angeles	Los Angeles, CA
Michael J. Cotugno, MD	Kyra Lawson, Kim Harper, Edwin Adamson, George H. Bauer Jr., Julie Bilich, Brenda Lawson, Brandon Illickal, Lois Eaglin, Heather Salisbury, Jeff Segner	Benchmark Research	Metairie, LA
Clarence Buddy Creech II, MD	Shanda Phillips, Naomi Kown, Katherine Sokolow, Wendy Winn, Katherine Wright, Shannon Walker, Stephanie Rolsma, Anna Gallion, April Hanlotxomphou, Deborah Myers, Robert Adkisson, Natalia Jimenez, Cindy Trimmer, Roberta Winfrey, Matthew Donio, John Oleis, Donna Torr, Shelly McGehee, Robert Samuels, Sandra Yoder, Eric Brady, Isaac Thomsen, Madeleine Guy, Emma Alexander, Lana Howard, Krisha Alexander, Shane Moore, Tacora Wright, Tara Evans, Ursula Powell, Jenna Caserta, Valerie Mitchell, Meryk Moore, Melissa Lehman, Diane Anders, Constance Dotye, Crystal Rice, Lamar Bowman, Sherri Hails, Monique Bennett, Nicki Soper, Leigh Howard	Vanderbilt University Medical Center	Nashville, TN
Joseph D. Davis, MD	Sandra Kelman, Sandra Braden, Sabrina Bolland, Mia Munoz, Jose Barocio, Brendan Levy, Dhwani Shah, Neil Pearson, Stephanie Catanzaro, Nathan Alderson, Susan DeCraene, Maureen Godfrey, Skyla Clark	Hope Research Institute	Chandler, AZ
Luis I. De La Cruz, MD	Amy Ford, Taylor Wilson, Cindy Smith, Austin Lambert, Erin Zeiler, Kaelyn Rowland, Marlee Smith, Suzanna Studdard, Zandra Hamilton, Meredith Benfield, Sara Poff, David Godwin, Elizabeth Everette, Steven Clemons, Kayla Peay, Stephanie Gilreath	VitaLink Research	Greenville, SC
Douglas Scott Denham, DO	Thomas Weiss, Parke Hedges, Ayoade Avworo, Kay Scroggins, Leisel Koerber, Antonio Gutierrez, Nathan Cortez, Andrea Gomez, Darlington Akahara, Michelle Smith, Kristy Trevino, Beatriz Herrera, Shaiane Dickerson, Kerry de Jesus, Matthew Korte, Cynthia Ramos, Reanna Martinez, Erica Leal, Shakera Flores, Paul Esparza, Brian Hemming, Melinda Axton, D'Andre White, Terri Perez, Carolina Coronado, Rebecca Many, Clayton Stone, Kimberly Evans, Anshumaan Maharaj, Stephen Brick, Steffanie Barrera, Staci Poettgen, Dawn Killian, Gerardo Pena, Karol Perez, Victoria Hernandez, Kevin Martinez, Amy Griffith, Nolan Payton, Quincey Hogue, Jamie Padilla, Emily Mendez, Lily Hays, Maristelle Co, Nicholas Trinidad, Ismael Rodriguez, Amy Lewis, Cindi Nellis, Lele Simmons, Marissa Johnson	Clinical Trials of Texas	San Antonio, TX
David Joseph Diemert, MD	Linda Witkin, Aimee Desrosiers, DeEnna Wedding, Bertran Walton, LaKeisha Queen, Ryan Mouton, Caroline Thoreson, Manya Magnus, Jennifer Wald, Erika Faust, Nicholas Heredia, Robbie Kattappuram, Hira Qadir, Chelsea Ware, Hannah Yellin, Kegan Dasher, Daniel Mullen, Jeanne Jordan, Taylor Ladson, Madison Lintner, Kaitlyn Macnair, Bitana Saintilma, Kelly Thomas, Samantha Walker, Neha Rampally, Madhu Balachandran, Elissa Malkin, David Parenti, Hana Akselrod, Marc Siegel, Gary Simon, Afsoon Roberts, Aileen Chang	George Washington University	Washington, DC

Principal Investigator	Study Team	Institution	Location
Susanne Doblecki-Lewis, MD	Maria Luisa Alcaide, Jose Gonzalez-Zamora, Stephen Morris, Yimy Puerto, Annie Salvarrey, Claudia Balgas, Claudia Santos, Katherine King, Brahian Steven Erazo, Mayra Fernandez, Leopoldo Cordova-Garcia, Elisa Corzo-Sanchez, Edgar Fernandez, Loreta Padron, Stefani Ann Butts, Kenia Moreno, Juan Casuso, Maria de Pilar Valanzasca, Thomas Tanner, Marilyn Fernandez, Mary Aloise, Inza Patton, Vivian Pastrana, Sendy Puerto, Irma Barreto Ojeda, Junlin Long, Barbara Huang, Gilianne Narcisse, Vanessa Perez	University of Miami	Miami, FL
Matthew W. Doust, MD	Denise Sample, Sandra Erickson, Nate Alderson, Adrian Alejo, Stephanie Catanzaro, Susan DeCraene, Cassie Enricco, Sandra Erickson, Alex Guereque, Shauna Harrell, Shana Harshell, Stephanie Junker, Stephanie Laufenberg, Madison Mikulak, Makayla Morra, Nicole Olson, Neil Pearson, Jasmin Redden, Monique Romo, Denise Sample, Dhwani Shah, Sahara Vega, Emma Kar	Hope Research Institute	Phoenix, AZ
Valentine Mbepson Ebuh, MD	Elwaleed Elnagar, Georgette Ebuh, Genevieve Iwuala, Catina Adams, Marissa Cervenka, Ezgar Del Real, Shraddha Dubal, Elwaleed Elnagar, Jenifer Fiatte, Kathy Harrell, Genevieve Iwuala, Vicki Martinez, Robert Miranda, Brennan Opanasenko, Destiny Robinson, Liz Ruiz, Amy Sheets, Shoniece Wallace	WR-Global Medical Research	Dallas, TX
Frank Steven Eder, MD	Ryan Little, Victoria Engler, John Tarbox, Heather Rattenbury-Shaw, Deborah Hubish, Jessie Taylor, Debra Gabrielson, Jessica Fellows, Jennifer Molstead, Kathe Olmstead, Ashley Conover, Tammy Kohn, Chelsea Briar, Corrine Young, Collen McVannan, Kelli Quick, Shaylynne Hubanks, Kimber Breeden, Ann Marie Sampson, Traci Hull, Tarin Gordon, Susan Owen, Kate Macarak, Tonya Rackett, Jacob Blattstein, Partidge Jane Aton, Nicole Croft, Carolyn Grausgruber, Rebecca Miller, Ryan Little, Victoria Engler, John Tarbox, Heather Rattenbury-Shaw, Nathan Kimball, Courtney Heisey, Ginny McNew, Abigail Wine, Cindi VanKuren, Jared Frick, Tammy Dennis, Andrew Kimball	Meridian Clinical Research	Binghamton, NY
Hana M. El Sahly, MD	Jennifer A. Whitaker, C. Mary Healy, Christine Akamine, Wendy A Keitel, Robert L Atmar, Annette Nagel, Sandra Francisco, Thea Marie Cordero, Janet Brown, Jennifer Christensen, Caroline Doughty-Skierski, Connie Rangel, Carrie Kibler, Coni Cheesman, Lisreina Toro, Chanei Henry, Chianti Wade Bowers, Pedro Piedra, Kathy Bosworth, Kayla Burrell, Jesus Banay, Tykel Eddy, Trent Davis, Shetel Anassi, Yvette Rugeley, Olga Rybina-Willis	Baylor College of Medicine	Houston, TX
David Jon Ensz, MD	Pamela Allen, Taylor Bergh, Kimber Breeden, Avery Dunn, Brandon Essink, Debra Gabrielson, Rylea Gulick, Tavane Harrison, Courtney Heisey, Andrew Kimball, Shelby Klaschen, Jessica Knight, Makayla Langston, Meagan Miller, Allie Oplinger, Heather Persinger, Alison Pierce, Kathryn Stoddard, Kayla Sturgeon, Jamie Thompson, Melissa Wiseman	Meridian Clinical Research	Dakota Dunes, SD
Brandon James Essink, MD	Jay Meyer, Frederick Raiser, Kimberly Mueller, Roni Gray, Riley Brockman, Tabitha Campbell, Carrie Essink, Laura Falcone, Roni Gray, Linda Layton, Jay Meyer, Kimberly Mueller, Tiffany Nemecek, Frederick "Fritz" Raiser, III, Jessica Satorie, Chelsea Steinmetz, Nicole Osborn, Cassie Heisey, Maria Nguyen	Meridian Clinical Research	Omaha, NE
Gregory J. Feldman, MD	May-Yin Suen, Brittany Cooksey, Madison Fowler, Sarah Chynoweth, Gary Clemons, Laura Jolly, Charlie Jordan, Heather Allison, Steve Clemons, Amber Brittany Belcher, Allison Kelly, Marsha Gossett, Wendy Taylor, Amy Witt, Kendal Nelson, Jeffrey Witt, Jacqueline Muenzner, Elizabeth Everette, Supinder Channa, Allison Ayers, Joseph Boscia, Farhan Siddiqui	VitaLink Research-Spartanburg	Spartanburg, SC
Carl J. Fichtenbaum, MD	Maggie Powers-Fletcher, Michelle Saemann, Sharon Kohrs, Kimberly Mullins, Lindsay Davis, Moises Huaman, Angela Snyder, Kristin Weghorn, Brenda Miller, Elizabeth Costea, Lisa Schira, Romana Saeed, Helen Shelton, Kathleen Ballman, Laura Browning-Cho, Sherry Donaworth, Chris Goddard, Jeanine Goodin, Elizabeth Niederegger, Lisa Hachey, Tamara Maus, Pam Fletcher, Makayla Bishop, Victoria Straughn, Shaina Horner, Carrie Christofield, Dana Burns, Jason Mayes, Kelly Windholtz, Lisa Proffitt, Faizan Qureshi, Michelle O'Neil, Arustamyan Lisa, Sarah Trentman, Eva Whitehead, Jennifer Baer, Linda Hinds, Jaasiel Chapman, D'Vaughn House, Gary Frazier, Judy Houston, Lisa Altenau, Mary Burns, Dorice Smith, Justin Ragle, Eric Mueller, Cynthia Nypaver, Jaime Robertson, Anissa Moussa, Geronimo Feria Garzon, Sierra Bennett, Marlena Petrie	University of Cincinnati	Cincinnati, OH
Carlos A. Fierro, MD	Mazen Zari, Celia Gonzalez, Natalia Leistner, Mary Easley, Mary Provost, Krista Estrada, Ann Geier, Amy Thompson, Heather Barker, Karol Moore, Kelly Moen, Monica Atwood, Amber Wolf, Brandi Dickerson, Manyvohn Rinehart, Dina Hammine, Angela Eichler, Casey Johnson, Nathan Arthur	Johnson County Clin-Trials	Lenexa, KS
Veronica G. Fragoso, MD	Lisa Holloway, Cecilia McKeown-Bragas, Teresa Becker, Vicki Miller, Leena Mir, Elton Oliveira, Moez Talpur, Enya Rentas-Sherman, Gabriela Maria Becerra, Dewayne Hicks, Robert Krbashyan, Shakira Barr, Ashraf Jafri, Herman Ortiz, Zohair Harianawala, Chandra Tobin, Norma Gonzalez, Saji Perinjelil, Khorshid Amirkhosravi, Tracy Kowalski, Biman Goswami, Waheeda Sureshbabu, Amy Anderson, Berenice	Texas Center for Drug Development, Inc.	Houston, TX

Principal Investigator	Study Team	Institution	Location
	Ferrero, Simeen Khan, Chen-Ho Yang, Nazanin Zarinkamar, Scott Ward, Crystal Reese, Miyosha Lewis, Olga Konshina, Lorrian Yates.Joel Cano, Quiana Wilson, Kara Sikes, Diana Chehab, Joanna Quezan, Maryam Rabbani, Sadaf Batla, Abbyssinia Moges. Diego Carrington, Matthew Joseph, Laura Grissanty, Dean Jang, Dustin McFadden, Misbah Baloch, Elisa Moralez, Abdeali Dalal, Frances Saubon, William Fernandez, Jenny Toress, Blessing Felix, Zain Rizvi		
Ian Frank, MD	Annet Davis, Eileen Donaghy, Nicole Sundo, Juan Ramirez, Laura Schankel, Dana Brown, Katharine Bar, Dana Brown, Christopher Chianese, Gillain Constantino, Dovie Watson, Kathleen Degnan, Helen Koenig, William Short, Petra Alexander, Eileen Mergliano, Jie Ho, Michele Wisniewski, Debora Dunbar, Liani Santini-Lopez, Rosemarie Kappes, Angela Cabassa, Tammy Chen, Berry SotoVega, Deborah Kim, Devon Cliett, Kate Kearns, Jillian Baron, Vivian Leung, Florence Momplaisir, Sarah Wood, Tameka Matthews, David Metzger, Richard Tustin	University of Pennsylvania	Philadelphia, PA
Sharon E. Frey, MD	Irene Graham, Getahun Abate, Daniel Hoft, Heather Douds, Cassandra Zehenny, Joan Siegner, Helay Hassas, Kim Cooper, Shirley Dettlebach, Sabrina DiPiazza, Carol Duane, Linda Eggemeyer-Sharpe, Lauren Foreman, Jerry Hutter, Ryan Kerr, Kate Liefer, Tracy Montauk, Karla Mosby, Janice Tennant, Nicole Purcell, Kiana Wilder, Kathleen Chirco, Sharon Irby-Moore, Kathleen Koehler, Melissa Loyet, Thomas Pacatte, Susan Stewart, Azra Blazevic, Tamara Blevins, Chase Colbert, Christopher Eickhoff, Lainey Mejia Jauregui, Keith Meyer, Krystal Meza, Amanda Nethington, Huan Ning, Brittany Williams, Mei Xia, Yinyi Yu, Stanley Doublin, Mary Pat Eastman, Eric Eggemeyer, Mikayla Frye, Michelle Harris, Aleshia McCoy, Donna Duncan, Gwendolyn Tatum, Nicole Purcell, Kiana Wilder, Tammy Grant, Claudia Castillo Paredes, Rong Hou, Jin Wang, Qian Wang, Sarah George	Saint Louis University	St. Louis, MO
Cynthia Gay, MD	David Wohl, Joseph Eron, Jr., Andrew Thorne, Michelle Floris-Moore, Christopher Hurt, David Wohl, Chidinma Okafor, Janette Goins, Ulrike Adam, Ekundayo Nylander-Thompson, Anna Furlong, XinHong Ao, Kathy Guerrero, Melinda Hart, Kathleen Loeven, Rachael Mossey, Esther Speight, Rachel White, Chloe Twomey, Kristen Gray, Miriam Chicurel-Bayard, Susanne Henderson, Patti Vasquez, April Welch, Camille O'Reilly, Maureen Furlong, Noshima Darden-Tabb, Elizabeth DuBose, Marie Oriol, Dynesha Perry, Maria Stetson, Maria Bullis, Shelby Turner, Ebony Harrington, Michael Herce, Suzanne Blevins, Alexander Bradley, Susan Pedersen, Becky Straub, Sandra Barnhart, Felicia Barriga Munante, Nazneen Howerton, Tevnan Keller, Mandy Tipton, Abigail Riddick, Kristi Kirkland, Maggie Harman, Tania Hossain, Centhla Washington, Erin Hoffman, Carolina Pastrana Medina, William Johnson, Samantha Earnhardt, Amy James Loftis, Catherine Kronk, Yaa Ofori-Marfoh, Julie A Nelson, Nicole Maponga, Lina Rosengren-Hovee, William Zhao, Jennifer Thompson, Sarah Law, Holly Milner, Jonathan Oakes, Rachel Cook, Erin Cardot, Oesa Vinesett, Victoria Rucinski, Joy Wannamaker, Tanailly Giralt Smith, Eliza DuBose, Chidinma Okafor	University of North Carolina at Chapel Hill	Chapel Hill, NC
Richard M. Glover, II, MD	Stacy Slechta, Troy Holdeman, Robyn Hartvickson, Amber Grant, Jennifer Bennett, Lindsey Brewer, Janelle Brown, Kelsey Burden, Melissa Burton, Brianna Burton, Jordan Danby, Sheri Duncan, Amber Grant, Robyn Hartvickson, Lisa Hemmelgarn, Sherry Henning, Jeri King, Riley King, Colton King, April Kitterman, Shannen Lassiter, Cayla Lawless, Janna Martinez, Ragene Moore, Marissa Mueller, Aaron Nguyen, Justin Phillips, Jordan Reheis, Rebecca Ring, Katherine Saengerhausen, Shannon Thomas, Dylan Thomas, Cindy Thome, Denae Villines, Amber Wenzel, Eilleen Wilbert, Avi Woods, Caressa Presley, Brianna Newport, Olivia Allen, Miranda Santiago, Cheryl Sauerwein, Jill Longstaff, Sadie Allen, Candace Heckart	Alliance for Multispecialty Research	Newton, KS
Gregory Mark Gottschlich, MD	Melissa Gottschlich, Steven Anderson, Gregory Mark Gottschlich II, Mary Woeste, Kate Harden, Cindy Young, Michael Pordy, Audrius Ruksenas, Lacy Baird, Kim Krogman, Lori Stanton, Melissa Fuson, Mason Urban, Christine Watson, Richard Powell, Mary Smith, Jacob Sekinger, Diamond Russell, Nicole Lim, Mylene Asmar-Rios, Yusef Museitif, Craig Mitchell, Tarik Whitham, Zachary Rutledge, Troy Porter, Andrea Newlands, Jami Ramsey, Mary Frances Curry, Nishay Holloman, Crystal Barket, Michelle Spear, Shelley Mahan, Taeleigha Greene, Zachary Eardley, Gen Moussa, Mary Ann Gottschlich	New Horizons Clinical Research	Cincinnati, OH
Sinikka L. Green, MD	Julie Hamilton, Alex Fuller, Jeanette Dickhaus, Colleen Jacobson, Triny Cooper, Michelle Jackson, Taylor Evans, Tabitha Judd, Kathryn Alexander, Megan Rosallo, Sikhongi Phungwayo, Robin Dotson, Dana Finley, Michael Vasquez, Cyndi Foster, Gregg Lucksinger, Sarah Smiley, Jayasree Krishnankutty, Ray Coon, Grishma Dhimmer, Melanie Wilkerson, Tatum Shawver, Marcedes Coffman, Devin Teal, Laura Crenshaw	Advanced Clinical Research	Cedar Park, TX
Carl P. Griffin, MD	William Schnitz, Andrea Romero, Kim Hamilton, Raymond Cornelison, Angela Genovese, Shelly Brunson, April Green, Lacey Dietz, Kim Calloway, Chris Hyatt,	Lynn Health Science Institute	Oklahoma City, OK

Principal Investigator	Study Team	Institution	Location
	Destiny Heinzig-Cartwright, Chalimar Rojo, Sharee Wright, Kathi Shaw, Michael Pojezny, Avery Keller, Krystal Hightower, Dalia Tovar, Shanda Gower		
Milton Haber, MD	Maria Candelario, Martha Bunnell-Pollak, Lauren Wade, Jackie Ziegler, Deena Ramirez, Perla Avalos, Maria Drada, Jasmine Ali, Jessica McDowell, Kehinde Busari, Patricia Church, Ronald Meza, Marco Vela, Esteban Zurita, Chris Connolly, Ruben Del Bosque, Alisha Lutat, Chelsea Fleming, Brett Potthoff, Anita Suri, Cynthia Priester, Brenda Hernandez, Veronica Procasky, Eva Cerreta, Matt Honold, Melinda Rodriguez, Maria Regalado, Jordan Stauffer	Laguna Clinical Research Associates	Laredo, TX
Greg Hachigian, MD	Michael Cancilla, Ricardo Castellanos, Angela Cuellar, Yaman Darmarathne, Shaila Faulker, Yana Gordeyeva, Michelle Hisey, Ashley Jungsten, Kristin Kiersey, Pawandeep Nagra, Nav Nagra-Kooner, Jazmin Nauta, Masaru Oshita, Kenneth Quick, Julie Raygoza, Amanny Sadek, Melisa Tinder, Jhoana Torres, Deborah Murray, Kristen Kiersey	Benchmark Research	Sacramento, CA
Laurie J. Han-Conrad, MD	Brandon Baldwin, Lucian Cappoli, Tenisha Garcia, Ella Grach, Brenda Grande, Nicolle Mendez, Natalie Moy, Matthew Musikanth, Karen Mylerberg, Brennan Opanasenko, Mark Pulera, Patti Sanchez-Emery, Mireles Sarah, Todd Simmons, Denis Tarakjian	WR-Medical Center for Clinical Research	San Diego, CA
Wayne Lee Harper, MD	Toni Bland, Lori Bridges, Lucian Cappoli, Lisa Cohen, Leah Corts, Annie Craft, James Earnhardt, Lynn Eckert, Aubrey Farray, Laura Hoer, Matthew Hong, Chris Hoyle, Jenee Jiggetts, Brian Joseph, Bradley Killebrew, Kendra Lisec, Lucie Mangala, David Musante, Adnan Nasir, Amanda Olsen, Brennan Opanasenko, Marci Parks, Marion Peoples, Katherine Schuch, Judith Shand, Sabine Ucik, Douglas Wadeson, Barbara Wheeler	M3 Wake Research	Raleigh, NC
Ripley R. Hollister, MD	Jeremy Brown, Brandy Ball, Jeremy Brown, Valerie Dyster, Dalia Jeronimo, Shelby Pickle, Michael Pojezny, Melody Ronk, Kathi Shaw, Bobbi Shofner, Jami Wagner, Meghan York, Jill York	Lynn Institute of the Rockies	Colorado Springs, CO
Lisa A. Jackson, MD, MPH	Marilyn Nguyen, Maya Dunstan, Barbara Carste, Sarah Friend, Diana McFeters, Lynn Gross, Mohamed Ajenah, Jana Ffitch, Audra Mccoy, David Skatula, Susan Lasicka, Kimberly Brinker, Karen Sherwin, Melissa Scheer, Paula Lins, Roger Calvert, Roxanne Erolin, Stella Lee, Vi Tran, Stephanie Pimienta, Bruce Douglas, Lee Barr, Colin Fields, Erika Kiniry, Joe Choe, Janice Suyehira, Joyce Benoit, Michael Witte, Rebecca Lau	Kaiser Permanente Washington Health Research Institute	Seattle, WA
Spyros Andrews Kalams, MD	Greg Wilson, Kyle Rybczyk, Katie Crumbo, Carly Griffin, Latoya Hannah, Amy Kerrigan, Valerie Mitchell, Jenna Caserta, Mary Downey, Nicole Swindle, Shonda Sumner, Amber Massey, Trudy Sullivan, Rita Smith, Cindy Nochowicz, Eric Olson, Christian Warren, Josh Simmons, Dana King, Gwendolyn Rees, Matt Donio, Jesse Case, Keith Richardson, Jarissa Greenard	Vanderbilt University Medical Center	Nashville, TN
Colleen Kelley, MD, MPH	Valeria D. Cantos, Sheetal Kandiah, Carlos del Rio, Christina Bacher, Hannah Huston, Juliet Brown, Divya Bhamidipati, Nithin Gopalsamy, Brittany Lynn Speigel, Elizabeth (Betsy) Hall, Brandon Spratt, Kiran Dhillon, Caitlin Moran, Michael Chung, Felecia Wright, Marcia Peters, Rondell Jaggers, Vanessa Soliman, Ron Gaston, Christopher Foster, Sarah Wiatrek, Bezuayehu Mandefro, Pamela Weizel, Pamela Lankford-Turner, Anandi Sheth, John Gharbin, Catherine Abrams, Philip Powers, Paulina Rebolledo, Christin Root, Tiraje Lester, Sha Yi, Damien Swearing, Fred Ede, Isaac Perez, Kelly Likos, Meen Dhir, Aastha KC, Gabriela Georgial, Tucker Colvin, Nabeel Yar Khan, Valarie Hunter, D'Jamel Young, Felecia Atkinson	Emory University Emory University – Ponce de Leon Clinical Research Site	Atlanta, GA
Christina Kennelly, MD	Jacob Coleman, Brittany Bundeff, Melissa C. Hennessey, Kenneth Owen, Caroline Wilds Wilds, Jennifer Womack, Susan Martello, Chiedza Hooker, Robert Brownlee, Melissa James, Deborah Wesley-Farrington, Lori Whiteheart, Hala Webster, David Framm, Cortney Fretz, Gwyn Gibson, Susan Donahue, Kelly Woodell, Linda McCarty, Jim Vesely, Scott Chatterton, Andrew Ottesen, Enrico Belgrave, Krishna Shah, James Chester Alexander, Brittain Callahan	Javara	Charlotte, NC
Shishir Kumar Khetan, MD	Taja Adams, Tanya Alexander, Tanya Alexaner, Sydney Barmoy, Jake Bart, Kira Bell, Ira Berger, Jemario Blackwell, Priscilla Buahin, Bounphone Chanthavong, Juliana DeVito, Azure Erskine, Brandon Essink, Laura Falcone, Debra Gabrielson, Beau Garland, Barb Geiger, Tiana Oliver, Courtney Heisey, Sucharita Katikala, Andrew Kimball, Heather Lang, Jeanette Lee, Asefa Mekonnen, Devan Myers, Kimberly Nieves, Allison O'Brien, Oyebisi Olanrewaju, Nicole Osborn, Adunola Oshiyoye, Rahul Patel, Alan Pollack, April Poole, Collin Smith, Kathryn Stoddard, Chao Wang, Sean Whelan, Jonathan Whelan, Graciela Zapata, Nan Zhai	Meridian Clinical Researc	Rockville, MD
Murray A. Kimmel, DO	Alexa Diec, Ann Riley, Bette Denmat, Bram Swarr, Christina Raidl, Dania Billman, Denise Dixon, Donald Dawson, Elaine Crudo, James Crowley, Katrina Carlson, Kaylie Worzick, Laura Worth, Lisbeth Gordon, Marion Oliver, Robert Holt, Simmy Pinto, Taylor Atkinson, Traci Mitchell, Lana Ghomrawi, Norma Rokoff	Optimal Research	Melbourne, FL

Principal Investigator	Study Team	Institution	Location
Judith L. Kirstein, MD	Jared Bradshaw, Krista Forster, Jeanette Dickhaus, Marcia Bernard, Erica Sanchez, Nikki Abels, Cynthia Kunakom, Vanessa Vandergoot, Jessica Fisher, Carol Remigio, Jourdan Manfred, Frederick Lloyd, Tiffany Williams, Clarisse Baudelaire, Lovette Cherelle, Nolan Mackey, Alan Valenzuela, Theodore Wyman, Alyssa Taber, Karen Myers, Craig Koch	Rancho Paseo Medical Group	Banning, CA
Michael J. Koren, MD	Shannon Trull, Amanda Elwood, Mary Strickland, Ivy Gulliermo, Chistopher Ganzhorn, Sonia Gerardo, Taylor Johnson, Victoria Kaposchansky, Cassie Lawler, Laura Little, Amanda Pratt, Sheldon Warren, Andrea West, Emery Noles, Nathanial Grant, Jillian Agnew, Lori Alexander, Brenda Anderson, Deirdre Arrington, Sara Benner, Lisa Carl, Allison Crain, Nafisa Ishaku, Robert Nix, Sharon Smith, Amber Devries, Sandy Salceiro, Opara Chukwudi, Mikaela Karney-Trull, Ramil Castillo, David Graham, Gail Lowe, Alexander Hill, Carolyn Tran, Jeffry Jacqmein, Darlene Bartilucci, Alpa Patel, Janet Garvey, Mitchell Rothstein, Kenneth Aung-Din, Margaret Gannaway, Arman Mughal, Sandra Fuit, Jolenne Wolfer, Erin Schelhorn, Jacob Wolfer, Madison Martinez, Melissa Parks, Patricia Neal	Jacksonville Center for Clinical Research	Jacksonville, FL
Karen L. Kotloff, MD	Matthew Laurens, Milagritos Tapia, Lisa Chrisley, Cheryl Young, Barbara Albert, Robin Barnes, Shernel Barrett, Andrea Berry, Melissa Billington, Shannon Bittner, Colleen Boyce, Faith Pa'Ahana Brown, James Campbell, Regina Carpenter, Jamonie Carter, Ginny Cummings, Brenda Dorsey, Jorge Flores, DeAnna Friedman-Klabanoff, Shirley George, Nancy Greenberg, Hassan Haji, Elizabeth Hammershaimb, Susan Holian, Leslie Howe, Myounghee Lee, Alyson Kwon, Kirsten Lyke, Alma Valle Maldonado, Jennifer Marron, Kaitlin Mason, Monica McArthur, Rosa McBryde, Sherry McCammon, Sandra Molina, Kathleen Neuzil, Daniele Nitkowski , Justin Ortiz, Rekha Rapaka, Mardi Reymann, Toni Robinson, Wanda Somrajit, Mark Travassos	University of Maryland, School of Medicine	Baltimore, MD
Mark E. Kutner, MD	Amanda Colina, Isett Caro, Frances Beltran, Jessie Downs, Jonathan Fernandez, Mariete Renden, Mirnaya Mujica-Alabaci, Susel Figueredo, Yanelis Dominguez, Jaime Blandon, Bryan Ruiz, Leidy Montoya, Edgardo Rodriguez, Jessie Downs, Jason Rothscheld, Janett Acle, Yaime Martinez, Soraya Ricardo, Maria Hernandez Moran, Eloisa Guerra, Heidie Perez, Claudia Rodriguez, Victoria Moreno, Vanessa Hechavarria, Saray Carvajal, Daniel Lopez, Carlos Iviricu, Neiner Enriquez, Paola Garcia, Chris Hoyle, Marianela Carvajal, Janet Mendez, Edisleidy Mesa, Marco Ramirez, Dalila Del Valle, Jennifer Ortega, Yeni Hernandez, Jhobana Vargas, Carmen Amador, Juan Delgado, Maury Santos, Meredith Arguelles, Leyanis Coello, Vanessa Ansorena, Jorge Caso, Stacy Machado, Raydel Valdes, Giann Lightbourn, Dayami Dovales, Alain Chang	Suncoast Research Group	Miami, FL
Mimi Van Der Leden, MD, PhD	Chrishea Harvey, Tricia Oyeyemi, Aicha Moutanni, Stephanie Melton, Peta-Gay Jackson Booth, Jennifer Yoon, Gloria Kim, Atanas Filev, Francis Uwandi, Meyling Lopez, Janice Spreitzer, Courtney Gennes, Xiangfei Cheng, Matthew Van Sickle, Nick Bart, Brianne Okunji, Frank Maloba	Optimal Research	Rockville, MD
Michael L. Levin, MD	Brennan Opanasenko, Yajaira Ramos, Shonda Lester, Rebecca Boucher, Shawn Harrell, Shon Boucher, Patti Sanchez, Nina Scharbach, Alex Sanchez, Shyane Raniello, Wendy Guerra, Krystal Tyner, Kimberly Temple, Ruby Ortiz, Daniel Terreault, Amy Kill, Jade Odynski, Adolfo DeLeon, Debbie Carter, Eduardo Rodriguez, Julia Gass, Sara Esparza, Sierra Dansbee, Tammy Harrison, Marcy Kulic, Lucian Cappoli, Mora Klm, Matthew Fenner, Heather Jimenez, Shraddha Dubal, Julie Hussey	WR-Clinical Research Center of Nevada	Las Vegas, NV
Michael Lewis, MD	Nancy Mohler, Mai Pham, Ron Waldorf, Elham Ghadishah, Samantha Feril, Stella Lee, Dzuyen Nguyen, Ruoxiang Wang, Justine Velandria, Benjamin Dreskin, Joseph Yusin, Lauren Vigil, Sara Wong, Suchi Tiwari, Joseph Pisegna, Sunita Dergalust, Wayman Lee, Krissa Caroff	VA Greater Los Angeles Healthcare System	Los Angeles, CA
Gregg H. Lucksinger, MD	Jaleh Ostovar, Craig Koch, Danuel Hamlin, Kelly Chase, Jeanette Dickhaus, Edward Kerwin, Frederick Forde, Allison Alvord, Dawn Stewart, Dan Hamlin, Kevin Parks, Ryan Israelsen, Kary Kelly, Tiffany Smith, Melissa Myers, Ryan Rackley, Audrey Kuehl, Savannah Peterson, Hannah Hall, Jay Weisbart, Alison Dodenhoff, Emily Kelly	Velocity Clinical Research	Medford, OR
Mary Beth Manning, MD	Carol Salango, Alec Ireland, Lisa Hoagland, Jeanette Dickhaus, Toby Briskin, Joan Rothenberg, Michael Gaston, Sharita Tedder-Edwards, Denise Roadman, Megan Sokolowski, Tina Shickluna, Katherine Bielanski, Samantha Hood, Talia Chandler, Brianna Arman, Melinda DeLong, Naqib Ahmad, Karly Tarase, Jade Svoboda, Lisle Merriman, Melisa Sebera, Emma Landskroner, Amy Maroun, Brooke Glivar, Jennifer Gaston, Sarah Dzigiel, Cassiandra Uminski, Karol Sabol, Devan Patel, Nick Zarbo, Briana Jackson, Brian Sharpe, Nicole, Baitt, Kaitlyn Duffy, Gabrielle Jacobs, Ann Czuprun, Tracee Cash, Diamond Ivey, Kaitlyn Rubell	Rapid Medical Research	Cleveland, OH

Principal Investigator	Study Team	Institution	Location
Kristen Marks, MD	Grant Ellsworth, Tina Wang, Timothy Wilkin, Mary Vogler, Carrie Johnston, Marshall Glesby, Roy Gulick, Ole Vielemeyer, Rebecca Fry, Todd Stroberg, Caitlin Rhoades, Noah Goss, Shaun Barcavage, Valery Hughes, Jonathan Berardi, Caroline Greene, Sarah Galloway, Caique Mello, Ashley Machado, Mia Crowley, Monique Williams, Katherine Fee, Elizabeth DeJesus, Andrew Yu, Minkyung Lee, Susan Herder, Mary Ann Zweibel, Patrice Weller, Antonio Rivera-Lopez, Edward Kenny, Hetal May, Natella Fridman, Parul Shah, Ruby Lee, Venus Fernandez, Victoria Lesina, Celine Arar, Byron Bullough, Kinge-Ann Marcelin, Brian Mangano, Jessenia Fuentes, Jiamin Li, Genessi Rodriguez, Catherine Jerry, Nadi Islam, Liqun Cai, Wayne Burns, Akinbayo Caulcrick, Andrika Thomas, Barbara Batog, Guoan He, Sara Yoder, Tamara Crowder, Gianna Resso, Sophia Alvarez, Tahera Begum, Elizabeth Connolly, Roxanne Rosario, Paul Kim, Steven Wang, Vasilika Koci	Cornell Clinical Trials Units - Weill Cornell Chelsea and Uptown	New York, NY
Judith Martin, MD	Alejandro Hoberman, Timothy Shope, Gysella Muniz, Sonika Bhatnagar, Kumaravel Rajakumar, Anne-Marie Rick, Peri Unligil, Jennifer Nagg, Melissa Andrasko, Mary Ann Sieber, Jennifer Opal, Lalicia Roman, Spenser Kinsey, Michelle Burke, Matthew Lee, Dominic Kramer, Linette Milkovich, Emily Dougherty, Emily Carney, Shannon Mance, Nader Shaikh, Diana Kearney, Jamie Fries, Lisa Vavro, Shayla Goller	UPMC University Center	Pittsburgh, PA
John W. McGettigan, Jr., MD	Walter Patton, Jennifer Schnider, Riemeka Brakema, Heeten Desai, Mikell Brett Karsten, Patricia Jalomo, Cindy Finch Benoy, Karin Choquette, Jonlyn McGettigan, Yvonne De Los Reyes, Melissa Cozzens, Amanda Hermosillo, Cindy Montgomery, Susan Tarwid, Annette Elzy, Tianna Young, Saysamone Banks, Cristina Fernandez, Damaris Atondo, Zoe Sesma, Norma Barrientos, Maggie Tono, Kisha Adams, JoAnn Wilkins, Arianna Bermudez, Carol Sayer, Julie McDowell, Angelina Navarro, Mercedes Sullivan, Crystal Mata, Sheldon Gingrich, Aaliyah Sestiaga, Gia Longo	Quality of Life Medical & Research Centers	Tucson, AZ
Mark Montgomery McKenzie, MD	Tiffany Jewell, Zackery Harmon, Michael Elizabeth, Christy Sweet, Teresa Deese, Catherine Schon, Misti Earwood, Lou Cappoli, Brennan Opanasenko, Lisa Guider, Michelle Forgey, Justian Jarrett, Rachel Scott, Elizabeth Michael, Erica Osmundsen, Andrew Wood, Shelly Brooks, Gisela Heintz, Lilian Nukuna	WR-ClinSearch	Chattanooga, TN
Vicki E. Miller, MD	Sajjad Naqvi, Soofia Masood, Fredric Santiago, Sonia Guerrero, Subhash Koneru, Nirja Shah, Andrea Torres, Ramani Gali, Talha Baig, Heather Leary, Afifah Ayub, Nayab Goher, Patti Tate, Reagen Reed, Muhammad Irfan, Amy Starr, Alefiyah Motiwala, Julia Kenny, Victoria Aguilar, Jessica Arguijo, Insiya Valika, Victoria Aguilar, Jagruti Patel, Anna Pena, Faryal Mahmood, Blanca Gomez, Nancy Torres, Kristyn Latil, Tarori Mark, Laura Djampou, Lindsey Kueng, Marianne Tadros, Mohammad Millwala, Monica Murray, Murtaza Marvi, Shivani Shah, Vanessa Gonzalez, Zohair Harianawala, Zainab Rizvi, Ambily Dileep, Jaquelyn Gonzales, Ragen Powell, Carolina Deandres, Syed Fahad Ali Kazmi, Sandra Natalia Perez, Shannon Amacker, Shiela Varghese	DM Clinical Research	Tomball, TX
Gowdhami Mohan, MD	Rodolfo Barrera, Emma Partin, Kelly White, Ashley Rochester, Charles Thompson, Stefanie Tyson, Ashten Sheriff, Alyssa-Kay Peay, Kayla Corn, Barbara A. Richardson, Kristin Miller, Steven Clemons, Cameron King, Emma Partin, Gary Clemons, Brianna Starr, Danyel Johnson, Taylor Davis, Niki Tyson	VitaLink Research	Anderson, SC
Kathleen M. Mullane, DO, PharmD	David L. Pitrak, Cheryl Nuss, Karen Cornelius, Randee Estes, Amy Luckett, Michelle Moore, Judi Pi, Stephen Schrantz, Jill Stetkevych	University of Chicago	Chicago, IL
Joseph Lee Newberg, MD	Mary Reyes, Nicole Leahy, Victoria Andriulis, Herbert Whinna, Patricia James, Lana Ghomrawi, Carole Kempfer, Miriam Arroyo, Maria Castro, Anna Maddox, Reuben Martinez, Jacquilyn McCormick-Burks, Laura Pearlman, Rosalinda Vazquez, Shaheera Suleiman, Neha Atal, Rosalind Vazquez	Synexus Clinical Research	Chicago, IL
Richard M. Novak, MD	Regina Harden, Maria Schwarber, Michael Pacini, Rebeca Gansari, Margie Villarreal, Stephanie Martin, Michelle Lee, Richard Morrissy, , Taylor Ellis, Samuel Rene, Tara Cobbs, Claudia Preciado, Scott Borgetti, Maximo Brito, Olamide Jarrett, Mahesh Patel, Tracy Cable, Charity Ball, Maryann Holtcamp, Rodrigo Burgos, Sarah Michienzi, Emily Drwiega, Mikayla Johnson, Fischer Herald, Benjamin Ladner, Minseung Chu, Carolyn Dickens, Alfredo Mena Lora, Stockton Mayer, Andrea Wendrow, Habiba Sultana, Nanu Nunwar, David Chan, Marla Schwarber, Khandaker Anwar, Mahmood Ghassemi, Md Ruhul Amin, Doris Carroll, Rosa Valencia, Michelle Agnoli, Elena Llinas, Samuel Rene, Liam Morrissy, Adrian Raygoza, Addis Mekkonnen, Lisa Lindemann, Daniel Meslar, Karen Pacini, Corey Ringhisen, Amy Kennedy-Krage, Claudia Miller, Lorna Sanchez McCann, Gizelle Alvarez, Nia Moragne-Oneal, Nusirat Williams, Ian Feather, Nikki Griffith, Wardrick Nealon, Renyce Powell, Nila Safaeian, Monica Gingell, Diana Bahena, Gerald Beck, Brad Farrington, Rod Reyes, Monica Wilson, Juline Wondrasek, Kimberly Shapiro, Shannon Whitted, Victoria Roehl, Braulio Carrasco, Michael Chen, Olivia Murray, Yasiel Lacalle, Tessa Eckley, Anna Schluckebier, Kevin Cao, Elise DeBruyn	University of Illinois at Chicago - Project WISH	Chicago, IL

Principal Investigator	Study Team	Institution	Location
Paul Joseph Nugent, DO	Leonard Singer, Jennifer Jones, April Smith, Georgettea Geuss, Lana Ghomrawi, Christine Bennett, Norma Blevins, Linda Brotherton, Michele Byrd, Krista Doss, Victoria Holden, Christine Hull, Jean Montgomery, Nancy Cipollone, Savanah Torline, Brandon Brown, Meagan Thomas, Katie Ziska, Dana Sias, Hannah Wagner	Synexus Clinical Research	Cincinnati, OH
Jeffrey Scott Overcash, MD	Hanh Chu, Kia Lee, Karla Zepeda, John Rodriguez, Adam Prince, Yashveer Dubbula, Elizabeth Tomatsu Michael Voskanian, Crystle Rajania, Stephanie Ramirez, Claudia Camacho, Lauren Arnett, Kecia Darbeau, Ashley Smith, Kimberly Quillin, Cesar Ramirez, Daniel Robitaille, Erica Sanchez, Allie Davis, Michael Waters, Pat Kappen, Valerie Horne, Thao Vuong, Andrew Dennis, Nikki Abels, Dominique Panis, Richard McQuaid, Whitley Harbison, Erika Trujillo, Andrea Garcia, Jose Jacob Esparza, Carlos Vera, Raquel Taitingfong, Cathy Meza, He Pu, Jackielynn Smith, Shandel Odom, Zahira Nieves, Ashliegh Lindsay, Ariana Nasatka, Jose Cazarez, Nora Martinez, Angela Hunt, Antonio Delgado, Linda Vega, Angela Anorve, Erica Martinelli, Melania Riordan, Sylvia Lindholm, Gina Ciezkowski, Grecia Perez, Jacob Pineda, Nathan Tyler, Ranya Salem, Amara Yilmaz, Jessica Gonzales, Zabrina Ruiz, Laura Castillo, Yajaira Contreras, Angelica Guzman, Makenna Orel, Jeffery Alvarez, Gordon Bovee, Roxana Ramirez, Joan Esquivel	Velocity Clinical Research, San Diego	La Mesa, CA
James Todd Peterson, MD	Christopher Mickelson, Madeline Maldonado, Alison Charlton, Ashley Bragg, Sean Hansen, Emily Wilcox, Colby Bostock, Megan Henry, Pam Iwasaki, Bradley Young, Katelyn Walker, Joy Nguyen, Lindsey Bevan, Megan Grimmett, Madeline Grote, Heather Littell, Natalie Bee, Alexander Clark, Shana Eborn, Susan Edwards, Dan Henry, Heather Jackson, Gerald Kelty, Issac Pena-Renteria, Jacqueline Rohrer, Jack Taylor, Brooke Barrick, Ty Henry, Anna Dansie, Kenadie Hamblin	J. Lewis Research	Salt Lake City, UT
Paul Pickrell, MD	Susan Bonner, Blaire Graham, Staci Taggart, Hussain Malbari, Tiffany Lemuz, Ethan Shotton, Andrew Bell, Megan Malek, David Pampe, Carol Ann Linebarger, Michelle Peterson, Brandi Chalman, John Luna, Elizabeth Santellanes, Christina Martinez, Lisa Johnson, Lisa Savage, Melissa Winn, Wendi McKenzie, Eileen Euperio, Stefanie Mott, Paul Menefee, Katie Caballero, Darrell O'Brien, Morgan Schulle, Kate Jurek, Olivia Hapanowicz	Tekton Research, Inc.	Austin, TX
Terry L. Poling, MD	Meenakshi (Kavya) Natesan, Patricia Contreras, Denise Hole, Avi Woods, Jill Hiebert, Melissa Burton, Olivia Eagleson, Laura Holz, Terri Ford, Cindy Thome, Terry D Klein, Gregory Greer, Diandra Henriques, Tracy R Klein, Thomas C Klein, Christa Shue, Gina Young, Brenna Sprout	Alliance for Multispecialty Research	Wichita, KS
Bruce G. Rankin, DO	Jennifer Dittman, Lora Parahovnik, Crystal Paccione, Melissa Hodges, Katina Marchione, Matt Maxwell, Any Dominy, Diana Toney, Andrea Marrafino, Laura Isbell, Leandro Fernandez, Claxton Copeland, Michelle Tutt, Adam VanDeusen, Kevin Feldman, Clark Mason, Tifany Huertas, Over Seijas, Jennifer Cline, Christian Beierschmitt, Ryan Hobbick, Jessica Gilliam, Jeanette de Leon, Iman Mencia, Daniel Layish, Vienna Bauer, Shatonia Fields, Albert Garcia, Carrie Rycort, Tasha Brocato, Marshall Nash, Samantha Watts, Amy Houck-Dominy, Angela Hammerle, Teresa Logsdon, Erika Wierzbicki, Taylor Martin, Ranie Hutchins, Fadhel Alyunis, Gail Lavine, Jeffery Hood, Robert Duran, Michelle Jones, Ginny McClanahan, Heather Jackson, Leandra Fernandez, Douglas Winter, Antonio Rivera, Amber Vasquez, Thais Truffa, Daniel Campbell, Grace Newcomb, Elizabeth Orlando, Steven Shinn, John Hill, Christina Isbell, Dhaneshwar Oomrow, Alicia Cevera	Accel Research Sites	DeLand, FL
Michele Diane Reynolds, MD	Jennifer Bashour, Robert Schmidt, Cynthia Mayeux, Uvoka Huffman, Lisa Nicholson, Jacklyn Newton, Lynn Yauch, Cathy Monroe, Kathleen Carty, Angelica Banks, Taylor Werner, Pamela Echols, Pauline Jackson, Chana Hines, Lorine Cook, Cristina Puig, Patrick Brooks, Jennifer Ruiz, Deanna Bowman, Ladina Garcia	Synexus Clinical Research	Dallas, TX
Rambod Rouhbakhsh, MD, MBA	John Johnston, Richard Calderone, Tasha Stevenson, Tameka Fortune, Brandi Pace, Adreanna Pou, Jerrica Sullivan, Yolanda Lewis, April Rouse, Tiffany Jefferson, Elizabeth Danford, Jeff Repper, Mason Boutwell, Alexycia Washington, Krista Hirth, Meagan Grabel	MediSync Clinical Research Hattiesburg Clinic	Petal, MS
Nadine Rouphael, MD	Renata Dennis, Tigisty Girmay, Michelle Wiles, Sharon Curate-Ingram, Lauren Hewitt, Alexis Ahonen, Mari Hart, Sarah Bechnak, Erin Carter, Lauren Nolan, Daniel Sans Graciaa, Geoffrey Kamau, Easton Beshears, Sy Tran, Mary Atha, Mary Bower, Ghina Alaaedine, Brandy Johnson, Jacob Usher, Eileen Osinski, Erin Scherer, C. Tae Stallworth, Stephanie Ramer, Rose Pope, Esther Park, Francine Dyer, Laura Clegg, Rebecca Gonzalez, Stacey Wheeler, Susan Rogers, Vy Ngo, Vanessa Soliman, Kristen Unterberger, Bernadine Panganiban, Christopher Huerta, Juton Winston, Ali Alvarez, Jianguo Xu, Colleen Kelley, Paulina Rebolledo, Nicholas Scanlon, Jessica Traenkner, Matthew Collins, Hollie Macenczak, Cassie Grimsely-Ackerley, Tiffany Lee, Amy Anderson, Michele Paine McCullough, Hannah Huston, Daniella Carter, Lisa Harewood, Srilatha Edupuganti, Varun Phadke, Mindee Adamson, Jeanne Allen, Debbie Bartenfeld, Lily Berz, Amy Cromwell, Sergio Cruz, Fred Ede, Monica Godfrey,	Emory University - Hope Clinic	Decatur, GA

Principal Investigator	Study Team	Institution	Location
	Evan Gutter, Angelle Ijeoma, Sara Jo Johnson, Vinit Karmali, Dean Kleinhenz, Jennifer Kleinhenz, Alexandra Koumanelis, Maranda Leary, Tiraje Lester, Juliet Alise Morales, Shashi Nagar, Julia Paine, Dilshad Rafi Ahmed, Brittany Robinson, Amanda Rosner, Renee Silver, Trevor William Simon, Talib Sirajud-Deen, Damien Swearing, Maliya Tolbert, Pamela Turner, Chia Uzuegbunam, Claire Wan, Dongli Wang, Erika Wimberly, Jean Winter, Joy Winters, Yong Xu, Sha Yi		
Richard Rupp, MD	Amber Stanford, Megan Berman, Laura Porterfield, Gerianne Casey, Hala Ghoson, Doreen Jones, Michael Willig, Cori Burkett, Robert Cox, Amy McMahan, Diane Barrett, Kristin Pollock	University of Texas Medical Branch	Galveston, TX
Jamshid Saleh, MD	Matthew Miles, Rafael Lupercio, Vicky Martin, Marla Clark, Matthew Pohlmeyer, Ruba Zanaid, Veronica Blevins, Tara Ulberg, Carlyee Chambers, Marisol Corrales, Emily Crews, Mohamed Yassin, Sarah Sandberg, Frank Chen, Mandy Swanson	Paradigm Clinical Research Center	Redding, CA
John W. Sanders, MD, MPH	Stacy Harpe-Hall, Jesse Hopkins, Ann Schweppe, Jaymous Fayssoux, Kathryn Bender, James Peacock, Katharine Pearsall, Brandy Snyder, Deidre Knox, Megan Thorpe, Melissa Ellingson, Brittany Bundeff, Lisa Ashworth, Meredith Hiatt, Ritu Rathee, Stacy Woodliff, Brian Strittmatter, Amanda Wright, Daisy DeWeese-Gatt, Caryn Morse, John Williamson, Samantha Wheeler, Lori Whiteheart, Susan Donahue, James Lovette, Kaitlyn Van Leuvan, Kelly Ledbetter, Scott Chatterton, Julio Nasim, Amie Sidberry, Ashley Davis, Carter Noecker, Chie Hooker, Johanna Breenan, Sam Cable, Anna Bowman, Stephanie Boothe, Shea Overcash	Wake Forest University Health Sciences	Winston Salem, NC
Howard I. Schwartz, MD	Carlos Valladares, Jocelyn Morrera, Yulexis Amestoy, Tori Wallenburg, Thelma Beltran, Terry Piedra, Monica Garces, Alexandra Galvis, Wanda Delgado, Catherine Casas, Lesly Miguel Sosa, Vivian Rosales, Jose Fernando Henriquez, Mikael Yaniz, Beatriz Rivera, Peter Ventre, Gabriella Huyke, Maria Companioni, Jessie De Vega, Brianna Gamez, Stephanie Diaz, James Jean-Mary, Americo Padilla, Nikita Notise, Yorlina Luquetta, Monifa Wilson-Morris, Kenia Gutierrez, Roilan Garcia, Karla Pentzke, Leyda Valentin, Lazara Novas, Marilein Camacho, Jazmin Henfield, Laymis Alvarez, Myriam Rosado, Maxine Bryant, Maria Pinero, Laura Raucci, Francisco Ramirez, Angelic Gamez, Mailin Perez, Yasmin Baddour, Hary Leon Joseph, Yaquelin De la Cruz, Dunia Torres, Rosaidaliz Carreira, Chanella Garcia, Surisaday Mederos, Jose Muniz, Karenda Plotka, Sara Gomez, Maria Soto, Cathy Cruz, Nelia Sanchez-Crespo, Jennifer Schwartz, Barbara Corral, Matthew Muniz, Dayana Deltejo, Ana Castro, Reem Hassan	Research Centers of America	Hollywood, FL
Nathan Segall, MD	Michelle Sowell, Nancy Levine, Erynn McKinley, Hannah Smith, Karen Hickson, Elizabet West, Patrizia Greene, Jon Finley, Mildred Stull, Susan Jones, Jennifer LeBrun, Pamela Talbott, Kwannda Whatley, Jeffrey Jones, Michelle Binns, Donna Toepfer, Cynthia Steele, Grace Newville, Gillian Waite, Cynthia Pinckney, Karen Yangapatty, Kiara Tyner, Kimberly Cobb, Kourtney Richardson	Clinical Research Atlanta	Stockbridge, GA
William Seger, MD	Kimberly Pullen, Jean Seignon, Anthony Kim, Mohammed Antwi, Allison Green, Lizzy Seger, Elizabeth Boydston, Abdur Rafay Qadri, Deborah Devlin, Tasha Todd, Oluwatosin Akingbala, Alma Guel, Tisha Davis, Melody Dufrene, Samantha Loudermilk, Virginia Loudermilk, Crystal Starr, John Villegas, Ben Seger, Katherine Hollie	Benchmark Research	Fort Worth, TX
Neil Parmanand Sheth, MD	Kenneth Stell, David Beckett, Enitt Gonzalez, Donna McGunigal, Amanda Burns, Nancy Wood, Shelley Miceli, Christina Avila, Rebecca Baker, Laura Vigliotti, Sarah Kading, Samer Salama	Synexus Clinical Research	Glendale, AZ
William B. Smith, MD	Richard L Gibson, Jennifer Winbigler, Elizabeth Parker, Madison Watts, Suzann Cloninger, Talya Thomas	Alliance for Multispecialty Research	Knoxville,TN
Joel Solis, MD	Martha Carmen Medina, Xavier Morales, Hank Heller, Blake Torrence, Joanna Gurrola-Mahoney, Cynthia Bueno, Heather Holloway, Irving Salinas, Joel Perez, Paola Garcia, Erica Canales, Blanca Urbina, Brancisilio Gutierrez, Carolina Cantu, Chelsea Vargas, Cindy Vasquez, Cody McIntire, Gabriela Gutierrez, Hugo Sosa, Irvin Munoz, Jessica Estrada, Jonna Lopez, Kaegan Knox, Mirella Melendez, Natalia Valle, Natalie Echavarria, Nicole Litton, Amber Victor, Nancy Torrence, Madhu Shreya, Mathew Maran, Asfak Alam, Westly Keating, Tara Green, Devora Torrence, Gerardo Sedas, Shruti Konda, Prem Jangam, Mario Echavarria, Alejandro Silva, Anne McNulty, Daniel Contreras, Daniel Gomez, Edgar Garcia, Elizabeth Weber, Luis Lopez, Samuel Ramirez, Kayla Lopez, Pedro Penalo, Angel Salinas, Jaime Solis, Shannon Moyer, Aryana Ibarra, Guadalupe Gurrola, Jenna Anastasiades, Uchechi Ehiemua, Sara Solorzano	Centex Studies, Inc.	McAllen, TX
Stephen A. Spector, MD	Amaran Moodley, Jill Blumenthal, Baharin Abdullah, Christina Addington, Juan Carlos Alcantar, Deyna Arellano, Bernadette Cale, Brendan Costello, Tammelita Cotlon-Pineda, Fanny Delebecque, Karen Deutsch, Aram Dimayuga, Son Do, Yasmeen Esshaki, Aileen Everhart, Cindy Ewing, Veronica Figueroa, Medardo Gaytan, Crystal	University of California, San Diego	La Jolla, CA

Principal Investigator	Study Team	Institution	Location
	Groom, Carolyn Hernandez, Heather Huitema, Benjamin Hull, Sylvia Isaac, Jaclyn Jaskowiak, Cindy Knott, Leander Lazaro, Thuan Le, Megan Loughran, Michelle Madey, Rosalva Martha-Patten, Colleen McLellan, Jeff Ledford-Mills, Asami Mimura, Patty Moraes, Jennifer Morales, Jessica Nasca, Phirum Nguyen, Marielys Padilla-Martinez, Dennis Perpetua, Mike Pizza, Shannon Ransom, Emily Rizo, Carlos Rojas, Thaine Ross, Marie Sagrado, Eugene Sato, Lisa Stangl, Ji Sun, Nancy Tang, Mina Trivedi, Rodney Trout, Donna Voss, Lindsey Woronicz		
Cynthia Becher Strout, MD	Rica Santiago, Yvonne Davis, Patty Howenstine, Alison Bondell, Jaime Robertson, Anissa Moussa, Geronimo Feria Garzon, Sierra Bennett, Marlena Petrie	Coastal Carolina Research Center	Mount Pleasant, SC
Shobha Swaminathan, MD	Amesika Nyaku, Tilly Varughese, Rondalya Deshields, Michelle L DallaPiazza, Elise Lewis, Jennifer Punsal, Mario Portilla, Malithi Desilva, Christina Daliani, Susana Rivera, Aidan Ziobro, Andressa Rebellatto, Brian Murloy, Christina Ninan, Ernest Pianim, Eunice Wang, Merit Henen, Muhammad Usman, Rebecca Kim, Shiao Wang, Gener Eric Cruz, Bethany Birago, Joyell Arscott, Dina Meawad, Christie Lyn Costanza, Francesca Escaleira, Zoraida Cruz-Barahona, Jared Khan, Valeria Cadorett, Jamir Tuten, Travis Love, Eric Asencio, Sukhwinder Singh	Rutgers New Jersey Medical School	Newark, NJ
Ramy Joseph Toma, MD	Olivia Graves, Josiah Robinson, Patricia Hammonds, Lana Ghomrawi, Kara Quinnelly, Shaun O'Conor, Michael Lambe, Rachell Stewart, William Kirby, Pink Folmar, Rachel Culbreth, Heidi Leblanc, Julie McDaniel, Rian Montgomery, Andrea Woodle, Samantha Williams, Hunter Russell, Shereen Lowe, Maureen Mayer, Hollis Ryan, Elaine Reese	Synexus Clinical Research	Birmingham, AL
Timothy P. Vachris, MD	Mark Hutchens, Stephen Daniels, Margaret Wells, Sandra Clancy, Rebecca Martinez, Jessica Buot, Merissa Daugherty, Julie Hamilton, Kimberly Hernandez, Ashli Alejandro, Amy Collins, Monique Gawlik, Patricia Johnson, Maria Moreno, Ashley Washington, Tina Rountree, Daniel Dore, Ravi Davuluri, Ashlee Brunaugh, Jorge Martinez, James Hermon, Vianai Carreno, Mia Rountree, Colleen Coelho	Optimal Research	Austin, TX
Keith William Vrbicky, MD	Charles Harper, Chelsie Nutsch, Wendell Lewis III, Cathy Laflan, Linden DeBoer, Kayla Andal, Misty Appeldorn, Jenniger Grebe, Russell Herstein, Catherine King, Samantha Wieseler, Alisha Kiepke, Christy Lee, Kelsey Kelley, Kelli James, Ashley Frisch, Courney Green, Taysha Hingst, Jeni Hoppe, Kimber Breeden, Debra Gabrielson, Ginny McNew	Meridian Clinical Research	Norfolk, NE
Larkin T. Wadsworth III, MD	Ashley Dale, Christy Schultz, Rebecca Munsch, Anya Penly, Liz Garner, Stephanie Tesson, George Cherniawski, Angie Kean, Dan Reed, Courtney Kubiak, Maureen Dempsey, Heather Cherniawski, Breanna Galibert, Kristin Branson, Laura Hartupee, Karen Knapp, Horacio Marafioti, Lyly Dang, Jennifer Berry, Lauren Clement, Megan Dandurand	Sundance Clinical Research	St. Louis, MO
Jordan L. Whatley, MD	Patricia Whatley, Christopher Dedon, Anika Payne, Amie Shannon, Kristen Losavio, Nicole Harrell, Mary Margaret Dobson, Lindsey Hall, Chaney Bennett, Crystal Rowell, Mimi Dimmick, Amy Thomassie, Kimber Breeden, Cody LaFleur, Makaylea Truitt, Taryn Collett, Emily Best, Alexandra Caillouet,	Meridian Clinical Research	Baton Rouge, LA
Judith White, MD	Amy Edridge, Chelsea Montalvo, Eugenia Clark, Lisa Russell, Zahra Somji, Lesli Leimer, Robert Meyer, Christine Murphy, Prity Patel, Sejal Patel, Ruben Moliere, Samantha Merveillard, Yarnick Mirjah, Bryn Walls, Joey Cruz, Aaron Cooper, Jessica Bienaime, Ashley Gilcrist, Alisa Petit, Tyler Knightly, Kimberly Stokes, Christina Rosario, Talhia Matos, Ilona Boggs, Nicholas Weber, Felix Busot, Linda Colon, Heather Gillenwater, Cristina Kaplun, Melissa Caputi, Shayna Siplin, Daminee Shah, Samuel Martin, Alexis Waldorf, Vihar Upadhyay, Adolfo Henriquez, Saskia Singh, Maria Roberts, John Caporelli, Shirley Salvador, Quevina Scarver, Vanessa Garcia, Taylor Moore, Jayasen Singh, Curshinda Galvin-Burch, Mary Kesner, Jasmin Gil, Shay Gray, Steven Monsegur, Michele Steinmetz, Michael Lambe, Heather Powell, Sandra Torres, Shaban Katbeh, Taylor Wilson	Synexus Clinical Research	Orlando, FL
Priyantha N. Wijewardane, MD	Natalie Johnson, Martha Evans, Sondra Wright, Richard Pellegrino, Lastida Burns, Natasha Williams, Haylee Rowe, Kayla Graham, Amanda Horn, Eric Bravo, Jeffrey Thessing, A. Michele Maxwell, Amy Cooper, Lauren Evans, Tonya Cato, Haylee Tucker, Lesa Gann, Hannah Jones, Amanda May, Tiffany Walker, A. LeiAn Diaz, Laura Khalil, Lydia Purcell, Timothy Campbell, Charlotte Garcia-Velez, Andrea Scarborough, Beatrice A. Miller, Keith Bracy, Aujania Thompson, Cassandra Johnson, Krishana Day, Freddie Hicks, Jamie Pettus	Baptist Health Center for Clinical Research	Little Rock, AR
Barton G. Williams, MD	Flo Abbott, Nicole Burton, Alice Cipollini, Madison Croucher, Philip Dattilo, Erin Harrelson, Kelsey Heston, James Ingram, William H Jones, Karla Lane, Brandy Lowman, Evan Lucas, Megan Marles, Morgan Mathis, Angie Northcott, Clyda Pasquantonio, Alyssa Valente, Ciara Winders, Stephanie Graham	Trial Management Associates	Wilmington, NC
Marcus J. Zervos, MD	Paul Kilgore, Mayur Ramesh, Jelena Verkler, Pardeep Pabla, Andrew Clark, Katrina Williams, Dee Dee Wang, Beverley Duthie, Samia Arshad, Alandra White, Anna Kern, Ashley Mattern, Bilqis Mosed, Dana Parke, Doreen Dankerlui, Dragana Spasevska,	Henry Ford Health System	Detroit, MI

Principal Investigator	Study Team	Institution	Location
	Hanah Woods, Helina Misikir, Howard Klausner, Janay Scott, Jessica Heinonen, John Zervos, Joseph Miller, Kate Zenlea, Kristin Eis, Marissa Vasquez, Maurice Slaughter, Meaghan Flynn, Michael Garcia, Michelle Sankah, Nina Paeilli, Philip Benson, Robert Devore, Stevanya Baho, Tony Eljallad, Tyler Prentiss, Yaman Ahmed, Sharon Mathys, Linda Kaljee, Jeffrey Van Laere, Claudia Hanni, Hassan Zafar, Mona Desai, Gina Maki, Mary Perri, Dora Vager, Shannon Thomas, Autumn Robinson, Isis Hamilton, Sonia Eliya, Jehan Jazrawi, Biljana Popovic, Sharon Zahul, Joshua Ruzzin, John Laguio, Ali Mathena, Bobby Cook Jr., Marlene Hesler, Rochelle Fleming, Terria Minniefield, John Simons, Sherese Henderson, Ashley Hopkins, Rebecca McFarlane, Raeshell Carson, Jonathan Williams, Katherine Reyes, Erica Herc, Indira Brar, Mayur Ramesh, John McKinnon, Lacquis Duncan, Tim Asmar, Margaret Beyer, Kaleem Chaudhry, Madison Lee, Jo-Ann Rammal, Karthik Sridasyam, Siddesh Veer, Angelique Buluran, Kimberlyn Lott, Jeremiah Rooker, Alayna Wilder, Kathleen Wilson, Allison Weinmann, Hassan Mourtada		

Supplementary Methods

Trial oversight

The trial Investigational New Drug sponsor, Moderna, Inc. was responsible for trial design (in collaboration with the Biomedical Advanced Research and Development Authority [BARDA], NIAID, Coronavirus Vaccine Prevention Network, and study co-chairs), site selection and monitoring, and data analysis. Investigators were responsible for data collection. Authors vouch for the accuracy and completeness of the data and the fidelity of the trial to the protocol.

The issuance of the mRNA-1273 and BNT162b2 EUAs in December 2020 and the prioritization of older persons, first responders and those with comorbidities in the general population to receive the mRNA vaccines prompted the rapid redesign of the COVE study to successfully maintain participant engagement for the planned duration of 2 years in an open-label design, thus enabling the evaluation of longer-term safety and waning efficacy using established and novel study methods, such as evaluating VE in those vaccinated early as well as late in the study population. It is also important to determine correlates of protection in these ongoing studies which could inform strategies to improve vaccine responses in immunocompromised patients and potentially diminish viral evolution and reservoirs of virus in the community.

Statistical methods for primary and secondary efficacy analyses

The sample size of the study was driven by the total number of cases to demonstrate VE (mRNA-1273 vs. placebo) to prevent Covid-19. For the analysis of the primary efficacy end point, the trial was designed for the null hypothesis that the efficacy of the mRNA-1273 vaccine would be 30% or less, and a total of 151 cases of Covid-19 would provide 90% power to detect a 60% reduction in the hazard rate (i.e., 60% vaccine efficacy), with two planned interim analyses at approximately 35% and 70% of the target cases, and with a one-sided O'Brien–Fleming boundary for efficacy and an overall one-sided error rate of 0.025.

A sequential/hierarchical testing procedure was planned to control type 1 error rate over the primary efficacy and secondary efficacy endpoints. Secondary efficacy endpoints were only to be tested when the primary efficacy endpoint achieved statistical significance. Multiplicity adjustments were performed for secondary efficacy endpoints. (See Fixed-Sequence Method in the FDA guidance document at: https://www.fda.gov/files/drugs/published/Multiple-Endpoints-in-Clinical-Trials-Guidance-for-Industry.pdf). Although the above testing strategy for select secondary efficacy endpoints was pre-specified in the statistical analysis plan (SAP), at the first interim analysis (IA1), with 95 adjudicated cases based on a data snapshot on 11-Nov-2020 (results reported in Baden et al, N Engl J Med 2021;384:403-16; online Dec 2020), the VE was demonstrated for the primary efficacy endpoint, Covid-19. At the time of IA1, there were not enough severe cases (only a total 11 severe Covid-19 cases) and infection data were not available, thus, the testing strategy of these secondary efficacy endpoints was not fully implemented. In this manuscript, more comprehensive efficacy results with longer follow-up and high efficacy observed across endpoints are reported.

Efficacy analyses the primary and secondary end points were performed using the per-protocol, mITT and full analysis set populations, and participants were assessed in their assigned randomized treatment groups for all efficacy analyses. In this protocol, the primary efficacy analysis was conducted in the per-protocol (PP) set. The PP set is a commonly used and regulatory-accepted analysis set for

primary efficacy evaluations in vaccine studies. In this study, the PP set consists of all participants with negative SARS-CoV-2 status at baseline, receiving the correct 2 doses within allowable dosing windows and having no major protocol deviations. The primary efficacy endpoint is based on Covid-19 cases counted starting 14 days after the second dose, at a time when the immune response to vaccine is expected to reach a high level that is protective against Covid-19. Using the PP set (eg rather than an intent-to-treat [ITT] dataset) for the primary efficacy analysis, affords a more accurate assessment of the protective effect against Covid-19 generated by the immune response to the scheduled two doses of vaccine. The efficacy analyses were also performed in the mITT set as supportive data.

Secondary end point definitions and derivations

The analysis approach for primary and secondary efficacy endpoints are summarized in Table S4.

VE to prevent serologically confirmed SARS-CoV-2 infection or Covid-19 regardless of symptomatology or severity

For the secondary efficacy end point, serologically confirmed SARS-CoV-2 infection or Covid-19 regardless of symptomatology or severity [COV-INF], any post-baseline positive RT-PCR results were considered, including those from the scheduled NP swab tests at Day 29 visit prior to the 2nd injection as well as the those prompted by symptom(s). In addition, seroconversion due to infection was considered. The analysis population for COV-INF was the PP and the mITT set that include participants with negative SARS-CoV-2 status at baseline. Seroconversion due to infection was defined for participants with negative SARS-CoV-2 status at baseline as becoming seropositive (positive bAb specific to SARS-CoV-2 NP) as measured by *Roche Elecsys* on study (at scheduled visits post baseline). A Covid-19 case or secondary definition of Covid-19 case was always an INF case. The date of documented infection regardless of symptom [COV-INF] was the earlier of the date of positive post-baseline RT-PCR result, or date of seroconversion due to infection.

In the primary approach, documented infection was counted starting 14 days after the 2nd injection, which required a positive RT-PCR result starting 14 days after the 2nd injection, or seroconversion at day 57 visit or later.

VE to prevent asymptomatic SARS-CoV-2 infection

Asymptomatic SARS-CoV-2 infection was analyzed in the PP and mITT sets. Asymptomatic infection was identified by absence of symptoms and infections as detected by RT-PCR or seroconversion. Specifically, the absence of symptoms (no Covid-19 symptom for either primary efficacy end point of Covid-19, or secondary definition of Covid-19), and at least either seroconversion (bAb specific to SARS-CoV-2 nucleocapsid) at scheduled visits (months 1, 2, 7, 13 and 25 if applicable in Part A, participant decision visit and etc. in Part B) when blood samples for immunogenicity were collected, or by RT-PCR at scheduled visits such as pre-dose 2 at Day 29 in Part A, both RT-PCR test and bAb against SARS-CoV-2 nucleocapsid were considered.

The date of documented asymptomatic infection was the earlier date of seroconversion due to infection, or positive RT-PCR at scheduled visits, with absence of symptoms. Participants who had a symptomatic infection (Covid-19 or secondary definition of Covid-19) prior to an asymptomatic infection were censored at the time of symptomatic infection for the analysis of asymptomatic infection. In the primary approach, documented asymptomatic infection was counted starting 14 days after the 2nd injection, which required seroconversion at months 2 (day 57 visit) or later. As diseased cases (Covid-19 or secondary definition of Covid-19) are competing events for asymptomatic SARS-CoV-2 infections, competing risk method was used to estimate the vaccine efficacy of mRNA-1273,

specifically, Fine and Gray's (FG) sub-distribution hazard model will be used. Competing risk method was also be used to estimate the cumulative incidence function and the cumulative incidence of asymptomatic SARS-CoV-2 infections will be plotted.

VE to prevent Covid-19 disease regardless of prior SARS-CoV-2 infection

This endpoint was analyzed based on the FAS. The same methods described above for the primary efficacy end point were applied with cases counted starting 14 days after the second injection. Sensitivity analyses with cases counted starting immediately after the second injection, 14 days after the first injection, and after randomization were also be performed. In sensitivity analysis with cases counted starting after the second injection, participants who received only the first injection and was a case were censored at the time of Covid-19. The VE was also estimated with 1- ratio of incidence rates with the 95% CI using the exact method conditional upon the total number of cases adjusting for person-time. In addition, an exploratory analysis with the same Cox model was carried out in the subgroup of FAS whose baseline SARS-CoV-2 status was positive with cases counted starting from randomization to assess the VE in those with positive baseline SARS-CoV-2 status, at baseline, if sample size permitted. Such analysis in the subgroup of FAS whose baseline SARS-CoV-2 status was negative with cases counted starting from randomization was the same as the sensitivity analysis of Covid-19 starting from randomization in the mITT set.

VE to prevent SARS-CoV-2 infection

This endpoint will be analyzed using the FAS. The same methods described above for the primary efficacy endpoint will be applied with cases counted starting 14 days after the second injection of IP. Sensitivity analyses with cases counted starting immediately after the second injection, 14 days after the first injection, and after randomization will also be performed. In sensitivity analysis with cases counted starting after the second injection, participants who received only the first injection and is a case will be censored at the time of Covid-19. The VE will also be estimated with 1- ratio of incidence rates with the 95% CI using the exact method conditional upon the total number of cases adjusting for person-time. In addition, an exploratory analysis with the same Cox model will be carried out in the subgroup of FAS whose baseline SARS-CoV-2 status is positive with cases counted starting from randomization to assess the VE in those with positive baseline SARS-CoV-2 status, at baseline, if sample size permits. Such analysis in the subgroup of FAS whose baseline SARS-CoV-2 status is negative with cases counted starting from randomization is the same as the sensitivity analysis of Covid-19 starting from randomization in mITT.

Figure S1. Study Flow Diagram of Part A (blinded phase) followed by Part B (open-label phase)

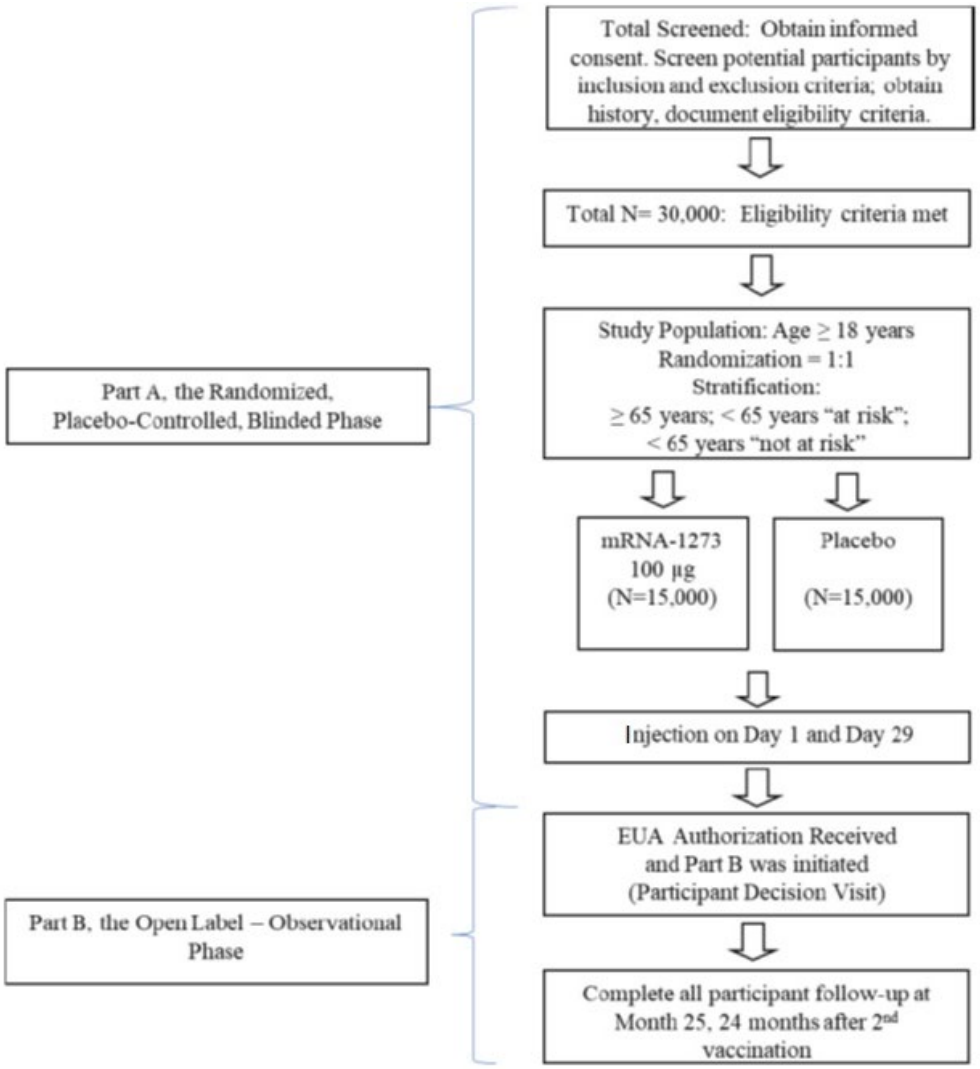

Figure S1. Study Flow Diagram of Part A (blinded phase) followed by Part B (open-label phase). EUA = Emergency Use Authorization. The ongoing 2-part Phase 3 study: Part A and Part B. Participants in Part A, the randomized, placebo-controlled, blinded phase of this study, were blinded to their treatment assignment. Given that the primary efficacy endpoint for mRNA-1273 against Covid-19 was met per the protocol-defined interim analysis (IA), Part B, the Open-Label Observational Phase of this study, was designed to offer participants who received placebo in Part A of this study and who met EUA eligibility, an option to request open-label mRNA-1273 during a Participant Decision Visit.

Figure. S2. Trial Profile during Blinded Part (A)

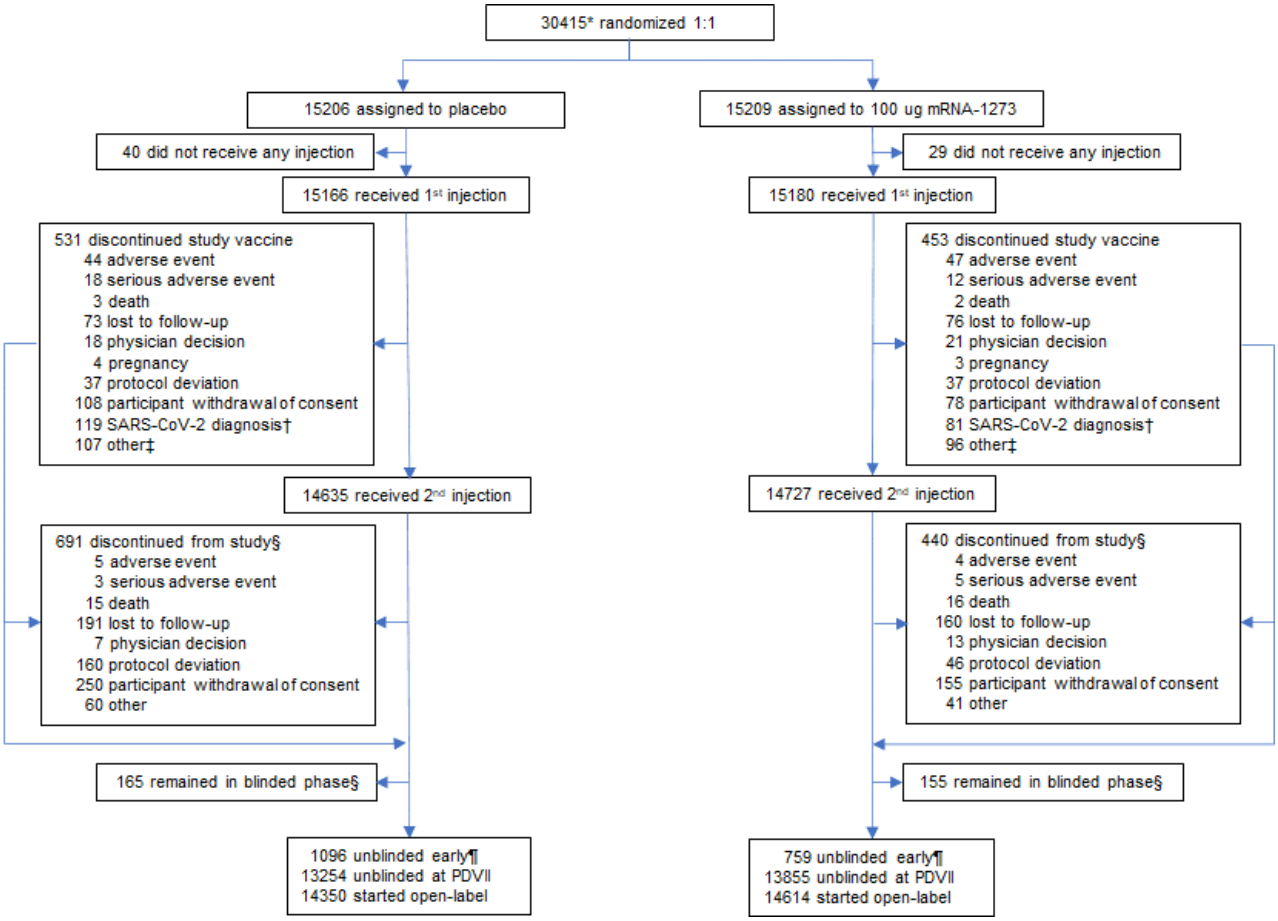

Figure S2. Trial profile during Blinded Part (A). In all groups, participants were evaluated according to the treatment group assigned. *8 participants were excluded from the original randomization set (n=30,423) and all analyses sets including 6 participants with major protocol deviations and 2 who were randomized twice. †Diagnosis of Covid-19 by detection of SARS-CoV-2 in day 1 nasopharyngeal swab or Covid-19 diagnosed prior to day 29. ‡Other includes 3 participants in the placebo and 2 in the mRNA-1273 groups who discontinued study vaccine on the first dose date and also discontinued from the study. §Includes participants who received only one injection and both injections. ¶Early unblinding included those that occurred before Dec. 29, 2020, the date of implementation of the protocol amendment at sites to offer participants unblinding at the participant decision visit (PDV) and open-label vaccination. ‖Unblinded on or after Dec. 29, 2020, the date of implementation of the protocol amendment at sites. Data cutoff date: March 26, 2021.

Figure S3. Discontinuation from Study by Month (Randomization Set)

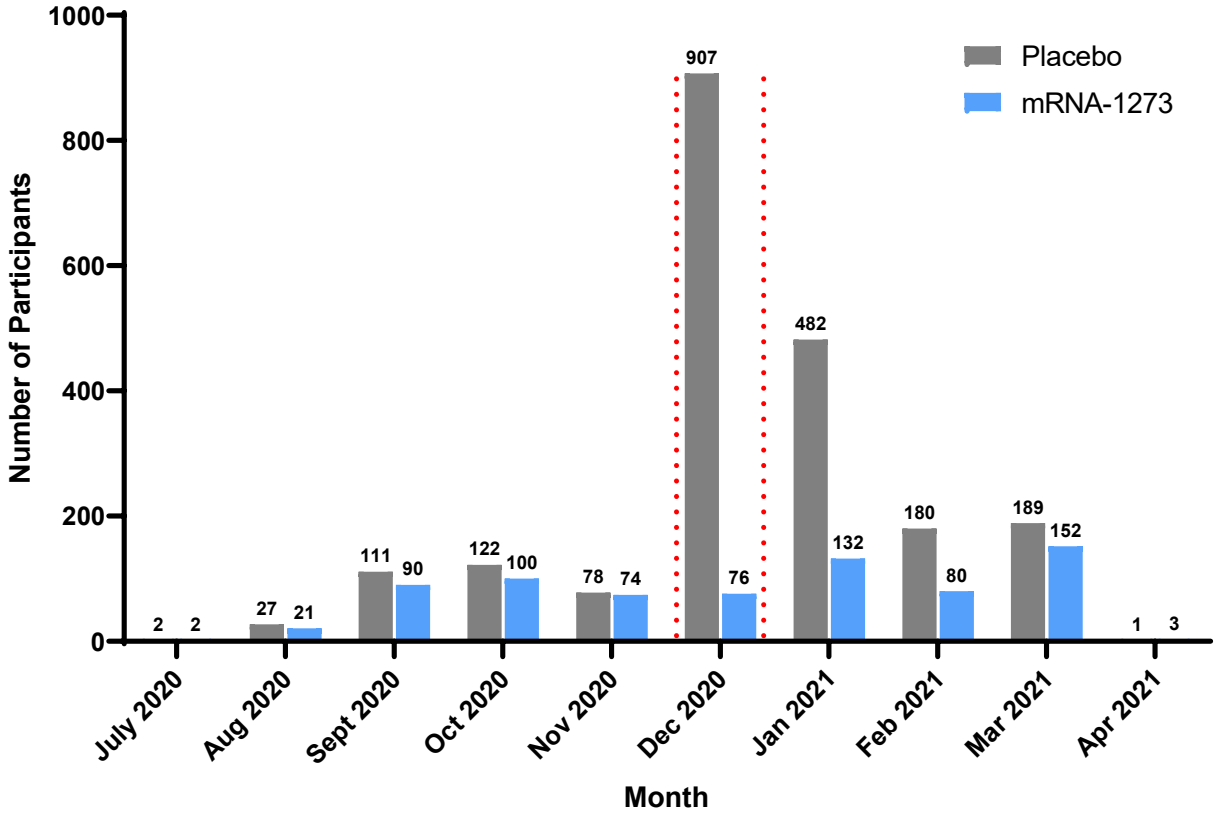

Figure S3. Discontinuation from Study by Month (Randomization Set. Number of participants who discontinued the study by month from July 2020 through April 2021. Data cutoff date: March 26, 2021.

Figure S4. Solicited Injection-site and Systemic Adverse Events and Grades in Overall and Age Groups

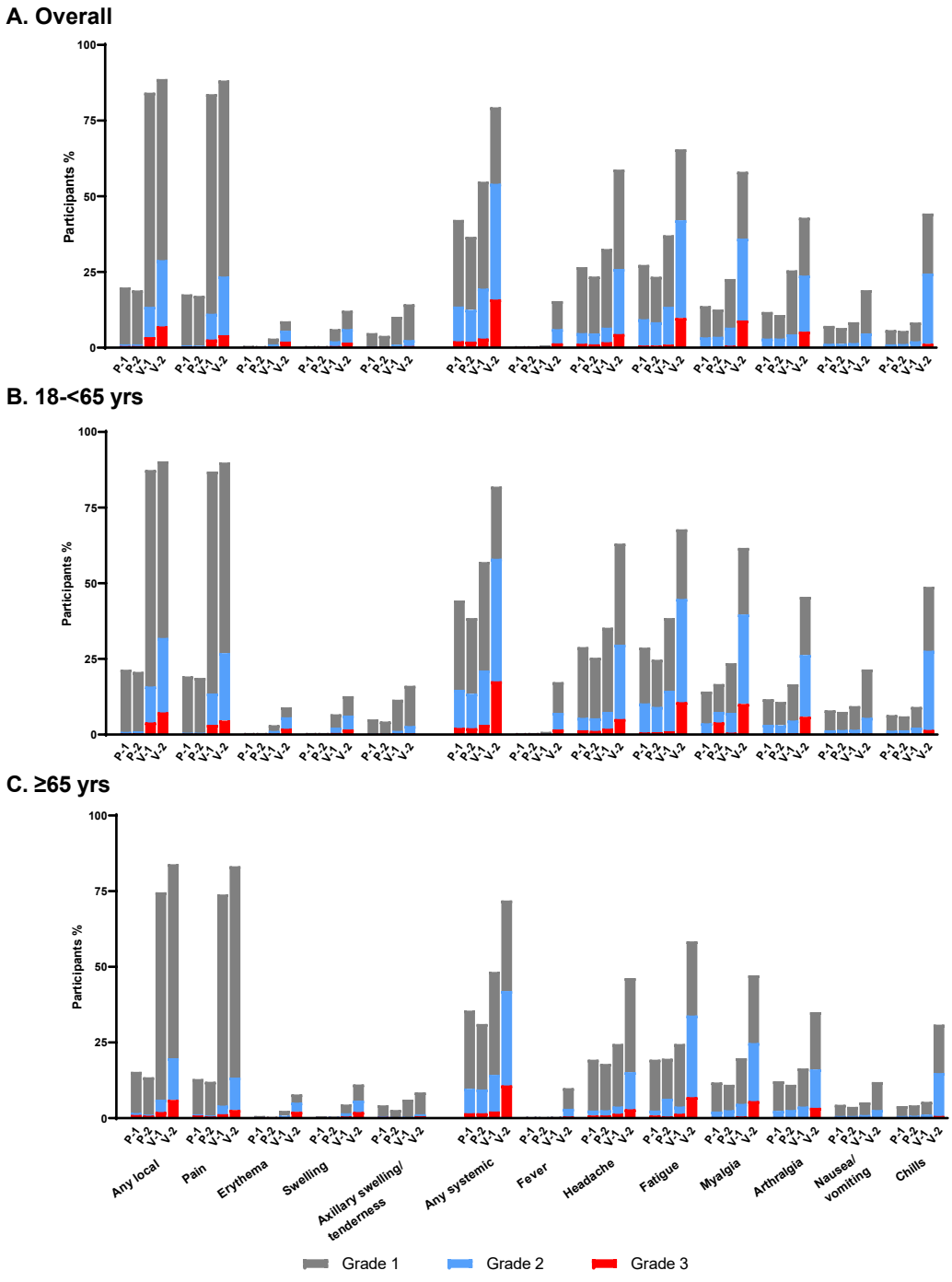

Figure S4. Solicited local and systemic adverse events in age groups. Percentage of participants in overall study (A), and those 18-<65 yrs (B) and ≥65 yrs (C) who experienced solicited local and systemic adverse events within 7 days post-injections 1 and 2 in the solicited safety set. P-1 and P-2 = placebo injections 1 and 2. V-1 and V-2 = mRNA-1273 vaccine injections 1 and 2**.** Data cutoff: March 26, 2021.

Figure S5. Covid-19 Starting after Randomization by Time Period in Per-protocol Set

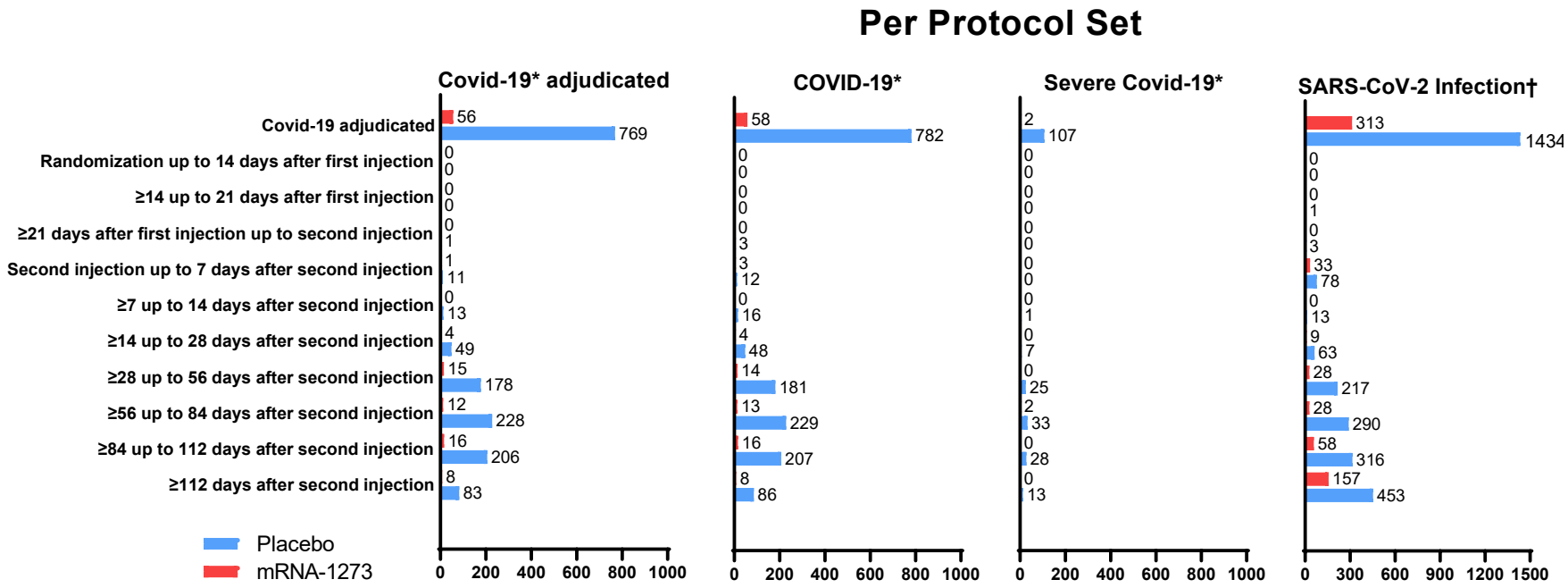

Figure S5. Covid-19 Starting after Randomization by Time Period in Per-protocol Set. *With censoring rules for with the censoring rules for efficacy analyses. Covid-19 case is based on eligible symptoms and positive RT-PCR within 14 days. If a participant had a positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participant was censored at the date with positive RT-PCR or Elecsys.†Includes participant decision visit data. Data-cutoff date: March 26, 2021.

Table S1. Criteria for Covid-19 Case Definition

Covid-19 Case	Criteria
Primary Efficacy	• At least TWO of the following systemic symptoms: Fever (≥ 38ºC), chills, myalgia, headache, sore throat, new olfactory and taste disorder(s), OR • At least ONE of the following respiratory signs/symptoms: cough, shortness of breath or difficulty breathing, OR clinical or radiographical evidence of pneumonia; AND • At least one NP swab, nasal swab, or saliva sample (or respiratory sample, if hospitalized) positive for SARS-CoV-2 by RT-PCR.
Severe	• Confirmed Covid-19 per Primary Efficacy End point case definition, plus any of the following: ▪ Clinical signs indicative of severe systemic illness, respiratory rate ≥ 30 per minute, Heart Rate ≥ 125 beats per minute, SpO2 ≤ 93% on room air at sea level or PaO2/FIO2 < 300 mm Hg, OR ▪ Respiratory failure or Acute Respiratory Distress Syndrome (ARDS), (defined as needing high-flow oxygen, non-invasive or mechanical ventilation, or ECMO), evidence of shock (systolic blood pressure < 90 mmHg, diastolic BP < 60 mmHg or requiring vasopressors) OR ▪ Significant acute renal, hepatic or neurologic dysfunction OR ▪ Admission to an intensive care unit or death.
SARS-CoV-2 infection	SARS-CoV-2 infection was evaluated in participants with baseline negative SARS-CoV-2 status at baseline and cases defined by post-baseline ▪ Positive RT-PCR results either at scheduled day 29 visit or prompted by symptoms OR ▪ Becoming seropositive (positive bAb specific to SARS-CoV-2 NP) as measured by Roche Elecsys on study (at scheduled visits) ▪ Symptomatic Covid-19 cases (Covid-19 case or secondary definition of Covid-19 case) always considered an infection case
Asymptomatic SARS-CoV-2 infection	• Asymptomatic infection is identified by absence of symptoms and infections as detected by RT-PCR or seroconversion. Specifically: ▪ Absence of symptoms (no Covid-19 symptom for either primary efficacy endpoint of Covid-19, or secondary definition of Covid-19), ▪ AND at least one from below: • Becoming seropositive (bAb specific to SARS-CoV-2 nucleocapsid, Roche Elecsys) at scheduled visits (months 1, 2, 7, 13 and 25 if applicable in Part A, Participant Decision Visit and etc. in Part B), when blood samples for immunogenicity are collected, or • By RT-PCR at scheduled visits such as pre-dose 2 at day 29 in Part A, both RT- PCR test and bAb against SARS-CoV-2 nucleocapsid will be considered.

Table S2. Grading of Covid-19 Symptoms

Grading	All Symptoms	For Nausea/Vomiting ONLY	For Sense of Smell/Taste ONLY
None	No symptom		
Mild	I had the symptom, but I could still do my normal activities	I was able to eat and drink normally	I had the symptom, but I retained some taste/smell
Moderate	The symptom really bothered me. It was hard to do my normal activities	It bothered me enough that I did not eat or drink normally	My taste/smell was significantly affected
Severe	The symptom was very bad. I was not able to do activities that I usually do	I could not eat or drink	I have no taste or smell

Table S3. Description of Analysis populations

Population	Description
Randomization Set	All participants who are randomized, regardless of the participants' treatment status in the study.
Full Analysis Set (FAS)	All randomized participants who received at least one dose of placebo or vaccine. Participants will be analyzed according to the group to which they were randomized.
Modified Intent-to-Treat (mITT) Set	All participants in the FAS who had no immunologic or virologic evidence of prior Covid-19 (ie, negative NP swab test at Day 1, and/or bAb against SARS-CoV-2 nucleocapsid below LOD or LLOQ) at Day 1 before the first dose of placebo or vaccine. Participants will be analyzed according to the group to which they were randomized.
Per-protocol (PP) Set	All participants in the mITT Set who received planned doses of placebo or vaccine per schedule and have no major protocol deviations, as determined and documented by Sponsor prior to database lock and unblinding, that impact critical or key study data. Participants will be analyzed according to the group to which they were randomized.
Solicited Safety Set	The Solicited Safety Set consists of all randomized participants who received at least one dose of placebo or vaccine and contributed any solicited AE data. The Solicited Safety Set will be used for the analyses of solicited AEs and participants will be included in the group corresponding tothe treatment that they actually received.
Safety Set	All randomized participants who received at least one dose of placebo or vaccine. The Safety Set will be used for all analyses of safety except for the solicited AEs. Participants will be included in the group corresponding to the treatment that they actually received.

Table S4. Statistical Analysis Methods for Efficacy End points

End point	Statistical Analysis Methods
Primary end point: • Vaccine Efficacy (VE) of mRNA-1273 to prevent Covid-19	• Primary analysis: VE will be estimated with 1 - HR (mRNA-1273 vs placebo) using a Cox proportional hazard regression model with treatment group as a fixed effect and adjusted for stratification factor based on the PP Set, with cases counted starting 14 days after the second injection • Analysis using the same model based on the mITT Set. • Sensitivity analysis using the same model based on the PP Set, with cases counted starting either immediately after the second injection or immediately after the first injection • Subgroup analysis of the primary efficacy end point will be performed to assess consistency of VE, such as in the age groups ≥18 and <65 years and ≥65 years • Supportive analysis of VE to be estimated with 1 - ratio of incidence rates with 95% CI using the exact method conditional upon the total number of cases • Supportive analysis of VE to be estimated with cumulative incidence ratio
Secondary end points: • Vaccine efficacy of mRNA-1273 to prevent severe Covid-19 • Vaccine efficacy of mRNA-1273 to prevent serologically confirmed SARS-CoV-2 infection or Covid-19 regardless of symptomatology or severity • Vaccine efficacy of mRNA-1273 to prevent Covid-19 using a secondary definition of symptoms • Vaccine efficacy of mRNA-1273 to prevent death due to Covid-19 • Vaccine efficacy of mRNA-1273 to prevent Covid-19 after the first injection • Vaccine efficacy of mRNA-1273 to prevent asymptomatic SARS-CoV-2 infection	• Similar analysis method as for the primary end point analysis. For each of the secondary end points: ▪ Primary analysis: VE will be estimated with 1 - HR (mRNA-1273 vs placebo) using a Cox proportional hazard regression model with treatment group as a fixed effect and adjusting for stratification factor based on the PP Set, with cases counted starting 14 days after the second injection ▪ Analysis using the same model based on the mITT Set. ▪ Sensitivity analyses with cases counted starting immediately after the second injection, 14 days after the first injection, immediately after the first injection, and immediately after randomization. • Vaccine efficacy and 95% CI based on the case incidence will be estimated with 1 - ratio of incidence rates using the exact method conditional upon the total number of cases.
• Vaccine efficacy of mRNA-1273 to prevent Covid-19 in all study participants, regardless of evidence of prior SARS-CoV-2 infection	The FAS population will be used for this secondary objective, using similar analysis methods as for theprimary end point analysis. • Primary analysis: VE will be estimated with 1 - HR (mRNA-1273 vs placebo) using a Cox proportional hazard regression model with treatment group as a fixed effect and adjusting forstratification factor based on the FAS, with cases counted starting 14 days after the second injection. Sensitivity analyses with cases counted starting immediately after the second injection, 14 days after the first injection, immediately after the first injection, and immediately after randomization.

Table S5. Demographics and Characteristics of Population

A. Overall Full-Analysis Population

Characteristics n (%)	Placebo N=15166	mRNA-1273 N=15180	Total N=30346
Sex			
Male	8057 (53.1)	7917 (52.2)	15974 (52.6)
Female	7109 (46.9)	7263 (42.8)	14372 (47.4)
Age at Screening (yr)			
Mean (range)	51.3 (18-95)	51.4 (18-95)	51.4 (18-95)
Age (yr) and health risk for severe Covid-19*			
≥18 and <65 and Not at Risk	8882 (58.6)	8888 (58.6)	17770 (58.6)
≥18 and <65 and at Risk	2535 (16.7)	2530 (16.7)	5065 (16.7)
≥65	3749 (24.7)	3762 (24.8)	7511 (24.8)
Ethnicity			
Hispanic or Latino	3109 (20.5)	3121 (20.6)	6230 (20.5)
Not Hispanic or Latino	11921 (78.6)	11917 (78.5)	23838 (78.6)
Not reported or unknown	136 (0.9)	142 (0.9)	278 (0.9)
Race‡			
White	12001 (79.1)	12031 (79.3)	24032 (79.2)
Black or African American	1531 (10.1)	1567 (10.3)	3098 (10.2)
Asian	739 (4.9)	656 (4.3)	1395 (4.6)
American Indian or Alaska Native	121 (0.8)	113 (0.7)	234 (0.8)
Native Hawaiian or Other Pacific Islander	32 (0.2)	36 (0.2)	68 (0,.2)
Multiracial	319 (2.10	319 (2.1)	638 (2.1)
Other	294 (1.9)	299 (2.00	593 (2.0)
Not reported or unknown	129 (0.9)	159 (1.0)	288 (0.9)
Baseline SARS-CoV-2 Status†			
Negative	14745 (97.2)	14746 (97.1)	29491 (97.2)
Positive	337 (2.2)	347 (2.3)	684 (2.3)
Missing	84 (0.6)	87 (0.6)	171 (0.6)
Baseline RT-PCR Results			
Negative	14995 (98.9)	15013 (98.9)	30008 (98.9)
Positive	95 (0.6)	88 (0.6)	183 (0.6)
Missing	76 (0.5)	79 (0.5)	155 (0.5)
Baseline bAb Anti-SARS-CoV-2			
Negative	14844 (97.9)	14847 (97.8)	29691 (97.8)
Positive	303 (2.0)	309 (2.0)	612 (2.0)
Missing	19 (0.1)	24 (0.2)	43 (0.1)
Risk Factor for Severe Covid-19 at Screening‡			
Chronic lung disease	749 (4.9)	712 (4.7)	1461 (4.8)
Significant cardiac disease	742 (4.9)	762 (5.0)	1504 (5.0)
Severe obesity	1058 (7.0)	1070 (7.0)	2128 (7.0)
Diabetes	1457 (9.6)	1460 (9.6)	2917 (9.6)
Liver disease	96 (0.6)	104 (0.7)	200 (0.7)
HIV	91 (0.6)	94 (0.6)	185 (0.6)
Body Mass Index, (kg/m^2)			
n	15081	15092	30173
Mean (SD)	29.32 (6.7)	29.32 (6.8)	29.32 (6.8)

bAb = binding antibody concentration; IRT = interactive response technology; RT-PCR = reverse transcription polymerase chain reaction. Internet-based randomization was used to randomize participants to treatment groups based on the information the Investigator entered regarding the age and potential comorbid conditions. Percentages based on the full analysis set (FAS). *Based on stratification factor from IRT, participants who were <65 years old were categorized as at risk for severe Covid-19 illness if they had at least 1 of the risk factors specified in the study protocol at screening. †Baseline SARS-CoV-2 status was positive if there was immunologic or virologic evidence of prior Covid-19, defined as positive RT-PCR test, or bAb against SARS-CoV-2 nucleocapsid above limit of detection or lower limit of quantification at day 1. Negative was defined as negative RT-PCR test and negative bAb against SARS-CoV-2 assay result at day 1. ‡Participants could be under one or more categories and were counted once at each category. Data cutoff: March 26, 2021.

B. Demographics and Characteristics by Age Group Stratification

Characteristic n (%)	≥18-<65 yr and not at risk			≥18-<65 yr and at risk			≥65 yr			Overall		
	Placebo N=8882	mRNA-1273 N=8888	Total N=17770	Placebo N=2535	mRNA-1273 N=2530	Total N=5065	Placebo N=3749	mRNA-1273 N=3762	Total N=7511	Placebo N=15166	mRNA-1273 N=15180	Total N=30346
Age at screening, yr mean (range)	43.8 (18-72)	44.0 (18-64)	43.9 (18-72)	49.2 (18-79)	48.9 (18-76)	49.0 (18-79)	70.7 (40-95)	70.4 (64-95)	70.6 (40-95)	51.3 (18-95)	51.4 (18-95)	51.4 (18-95)
Sex												
Male	4628 (52.1)	4541 (51.1)	9169 (51.6)	1329 (52.4)	1303 (51.5)	2632 (52.0)	2100 (56.0)	2073 (55.1)	4173 (55.6)	8057 (53.1)	7917 (52.2)	15974 (52.6)
Female	4254 (47.9)	4347 (48.9)	8601 (48.4)	1206 (47.6)	1227 (48.5)	2433 (48.0)	1649 (44.0)	1689 (44.9)	3338 (44.4)	7109 (46.9)	7263 (47.8)	14372 (47.4)
Race												
White	6790 (76.4)	6757 (76.0)	13547 (76.2)	1872 (73.8)	1900 (75.1)	3772 (74.5)	3339 (89.1)	3374 (89.7)	6713 (89.4)	12001 (79.1)	12031 (79.3)	24032 (79.2)
Black or African American	901 (10.1)	971 (10.9)	1872 (10.5)	414 (16.3)	374 (14.8)	788 (15.6)	216 (5.8)	222 (5.9)	438 (5.8)	1531 (10.1)	1567 (10.3)	3098 (10.2)
Asian	579 (6.5)	503 (5.7)	1082 (6.1)	83 (3.3)	87 (3.4)	170 (3.4)	77 (2.1)	66 (1.8)	143 (1.9)	739 (4.9)	656 (4.3)	1395 (4.6)
American Indian or Alaska Native	72 (0.8)	65 (0.7)	137 (0.8)	23 (0.9)	27 (1.1)	50 (1.0)	26 (0.7)	21 (0.6)	47 (0.6)	121 (0.8)	113 (0.7)	234 (0.8)
Native Hawaiian or Pacific Islander	20 (0.2)	26 (0.3)	46 (0.3)	9 (0.4)	7 (0.3)	16 (0.3)	3 (<0.1)	3 (<0.1)	6 (<0.1)	32 (0.2)	36 (0.2)	68 (0,.2)
Multiracial	232 (2.6)	236 (2.7)	468 (2.6)	52 (2.1)	51 (2.0)	103 (2.0)	35 (0.9)	32 (0.9)	67 (0.9)	319 (2.1)	319 (2.1)	638 (2.1)
Other	211 (2.4)	220 (2.5)	431 (2.4)	51 (2.0)	56 (2.2)	107 (2.1)	32 (0.9)	23 (0.6)	55 (0.7)	294 (1.9)	299 (2.0)	593 (2.0)
Not reported	42 (0.5)	67 (0.8)	109 (0.6)	18 (0.7)	17 (0.7)	35 (0.7)	14 (0.4)	13 (0.3)	27 (0.4)	74 (0.5)	97 (0.6)	171 (0.6)
Unknown	35 (0.4)	43 (0.5)	78 (0.4)	13 (0.5)	11 (0.4)	24 (0.5)	7 (0.2)	8 (0.2)	15 (0.2)	55 (0.4)	62 (0.4)	117 (0.4)
Race and Ethnicity Group*												
White	4978 (56.0)	5004 (56.3)	9982 (56.2)	1427 (56.3)	1458 (57.6)	2885 (57.0)	3063 (81.7)	3071 (81.6)	6134 (81.7)	9468 (62.4)	9533 (62.8)	19001 (62.6)
Communities of color	3896 (43.9)	3870 (43.5)	7766 (43.7)	1103 (43.5)	1066 (42.1)	2169 (42.8)	673 (18.0)	685 (18.2)	1358 (18.1)	5672 (37.4)	5621 (37.0)	11293 (37.2)
Missing	8 (<0.1)	14 (0.2)	22 (0.1)	5 (0.2)	6 (0.2)	11 (0.2)	13 (0.3)	6 (0.2)	19 (0.3)	26 (0.2)	26 (0.2)	52 (0.2
Ethnicity												
Hispanic or Latino	2222 (25.0)	2211 (24.9)	4433 (24.9)	553 (21.8)	557 (22.0)	1110 (21.9)	334 (8.9)	353 (9.4)	687 (9.1)	3109 (20.5)	3121 (20.6)	6230 (20.5)
Not Hispanic or Latino	6588 (74.2)	6597 (74.2)	13185 (74.2)	1959 (77.3)	1955 (77.3)	3914 (77.3)	3374 (90.0)	3365 (89.4)	6739 (89.7)	11921 (78.6)	11917 (78.5)	23838 (78.6)
Not Reported	42 (0.5)	58 (0.7)	100 (0.6)	15 (0.6)	14 (0.6)	29 (0.6)	26 (0.7)	33 (0.9)	59 (0.8)	83 (0.5)	105 (0.7)	188 (0.6)
Unknown	30 (0.3)	22 (0.2)	52 (0.3)	8 (0.3)	4 (0.2)	12 (0.2)	15 (0.4)	11 (0.3)	26 (0.3)	53 (0.3)	37 (0.2)	90 (0.3)
BMI kg/m2, mean (SD)	28.0 (5.1)	27.9 (5.3)	27.9 (5.2)	35.0 (9.1)	35.2 (9.5)	35.1 (9.3)	28.7 (5.9)	28.7 (5.8)	28.7 (5.9)	29.3 (6.7)	29.3 (6.8)	29.3 (6.8)
At risk for Severe Covid-19 at Screening												

Yes	139 (1.6)	131 (1.5)	270 (1.5)	2185 (86.2)	2192 (86.6)	4377 (86.4)	1133 (30.2)	1125 (29.9)	2258 (30.1)	3457 (22.8)	3448 (22.7)	6905 (22.8)
No	8743 (98.4)	8757 (98.5)	17500 (98.5)	350 (13.8)	338 (13.4)	688 (13.6)	2616 (69.8)	2637 (70.1)	5253 (69.9)	11709 (77.2)	11732 (77.3)	23441 (77.2)
Baseline RT-PCR												
Negative	8785 (98.9)	8774 (98.7)	17559 (98.8)	2490 (98.2)	2499 (98.8)	4989 (98.5)	3720 (99.2)	3740 (99.4)	7460 (99.3)	14995 (98.9)	15013 (98.9)	30008 (98.9)
Positive	65 (0.7)	65 (0.7)	130 (0.7)	20 (0.8)	16 (0.6)	36 (0.7)	10 (0.3)	7 (0.2)	17 (0.2)	95 (0.6)	88 (0.6)	183 (0.6)
Missing	32 (0.4)	49 (0.6)	81 (0.5)	25 (1.0)	15 (0.6)	40 (0.8)	19 (0.5)	15 (0.4)	34 (0.5)	76 (0.5)	79 (0.5)	155 (0.5)
Baseline bAb Anti-SARS-CoV-2												
Negative	8660 (97.5)	8647 (97.3)	17307 (97.4)	2468 (97.4)	2482 (98.1)	4950 (97.7)	3716 (99.1)	3718 (98.8)	7434 (99.0)	14844 (97.9)	14847 (97.8)	29691 (97.8)
Positive	213 (2.4)	233 (2.6)	446 (2.5)	61 (2.4)	43 (1.7)	104 (2.1)	29 (0.8)	33 (0.9)	62 (0.8)	303 (2.0)	309 (2.0)	612 (2.0)
Missing	9 (0.1)	8 (<0.1)	17 (<0.1)	6 (0.2)	5 (0.2)	11 (0.2)	4 (0.1)	11 (0.3)	15 (0.2)	19 (0.1)	24 (0.2)	43 (0.1)
Baseline SARS-CoV-2 Status†												
Negative	8608 (96.9)	8575 (96.5)	17183 (96.7)	2442 (96.3)	2467 (97.5)	4909 (96.9)	3695 (98.6)	3704 (98.5)	7399 (98.5)	14745 (97.2)	14746 (97.1)	29491 (97.2)
Positive	236 (2.7)	263 (3.0)	499 (2.8)	67 (2.6)	48 (1.9)	115 (2.3)	34 (0.9)	36 (1.0)	70 (0.9)	337 (2.2)	347 (2.3)	684 (2.3)
Missing	38 (0.4)	50 (0.6)	88 (0.5)	26 (1.0)	15 (0.6)	41 (0.8)	20 (0.5)	22 (0.6)	42 (0.6)	84 (0.6)	87 (0.6)	171 (0.6)
Age Subgroup at Screening, mean (SD), yr												
≥18 and <65	43.8 (12.33)	44.0 (12.40)	43.9 (12.36)	2532 (99.9)	2524 (99.8)	5056 (99.8)	1 (<0.1)	1 (<0.1)	2 (<0.1)	11413 (75.3)	11413 (75.2)	22826 (75.2)
≥65 and <75	2 (<0.1)	0	2 (<0.1)	2 (<0.1)	5 (0.2)	7 (0.1)	3008 (80.2)	3105 (82.5)	6113 (81.4)	3012 (19.9)	3110 (20.5)	6122 (20.2)
≥75 and <85	0	0	0	1 (<0.1)	1 (<0.1)	2 (<0.1)	691 (18.4)	615 (16.3)	1306 (17.4)	692 (4.6)	616 (4.1)	1308 (4.3)
≥85 Years	0	0	0	0	0	0	49 (1.3)	41 (1.1)	90 (1.2)	49 (0.3)	41 (0.3)	90 (0.3)
Risk Factor for Severe Covid-19 at Screening												
Chronic lung disease	14 (0.2)	19 (0.2)	33 (0.2)	491 (19.4)	455 (18.0)	946 (18.7)	244 (6.5)	238 (6.3)	482 (6.4)	749 (4.9)	712 (4.7)	1461 (4.8)
Significant cardiac disease	10 (0.1)	11 (0.1)	21 (0.1)	282 (11.1)	312 (12.3)	594 (11.7)	450 (12.0)	439 (11.7)	889 (11.8)	742 (4.9)	762 (5.0)	1504 (5.0)
Severe obesity	67 (0.8)	61 (0.7)	128 (0.7)	837 (33.0)	836 (33.0)	1673 (33.0)	154 (4.1)	173 (4.6)	327 (4.4)	1058 (7.0)	1070 (7.0)	2128 (7.0)
Diabetes	36 (0.4)	34 (0.4)	70 (0.4)	878 (34.6)	887 (35.1)	1765 (34.8)	543 (14.5)	539 (14.3)	1082 (14.4)	1457 (9.6)	1460 (9.6)	2917 (9.6)
Liver disease	9 (0.1)	8 (<0.1)	17 (<0.1)	61 (2.4)	76 (3.0)	137 (2.7)	26 (0.7)	20 (0.5)	46 (0.6)	96 (0.6)	104 (0.7)	200 (0.7)
HIV	14 (0.2)	11 (0.1)	25 (0.1)	61 (2.4)	66 (2.6)	127 (2.5)	16 (0.4)	17 (0.5)	33 (0.4)	91 (0.6)	94 (0.6)	185 (0.6)
Occupational Risk	7994 (90.0)	7969 (89.7)	15963 (89.8)	2172 (85.7)	2156 (85.2)	4328 (85.4)	2385 (63.6)	2371 (63.0)	4756 (63.3)	12551 (82.8)	12496 (82.3)	25047 (82.5)
Healthcare Workers	2744 (30.9)	2744 (30.9)	5488 (30.9)	596 (23.5)	596 (23.6)	1192 (23.5)	503 (13.4)	466 (12.4)	969 (12.9)	3843 (25.3)	3806 (25.1)	7649 (25.2)
Emergency Response	219 (2.5)	234 (2.6)	453 (2.5)	58 (2.3)	48 (1.9)	106 (2.1)	19 (0.5)	20 (0.5)	39 (0.5)	296 (2.0)	302 (2.0)	598 (2.0)
Retail/Restaurant	694 (7.8)	684 (7.7)	1378 (7.8)	188 (7.4)	173 (6.8)	361 (7.1)	99 (2.6)	100 (2.7)	199 (2.6)	981 (6.5)	957 (6.3)	1938 (6.4)

Manufacturing and Production	307 (3.5)	290 (3.3)	597 (3.4)	84 (3.3)	101 (4.0)	185 (3.7)	30 (0.8)	35 (0.9)	65 (0.9)	421 (2.8)	426 (2.8)	847 (2.8)
Warehouse Shipping and Fulfillment	121 (1.4)	138 (1.6)	259 (1.5)	42 (1.7)	43 (1.7)	85 (1.7)	12 (0.3)	9 (0.2)	21 (0.3)	175 (1.2)	190 (1.3)	365 (1.2)
Transportation and Delivery	318 (3.6)	337 (3.8)	655 (3.7)	100 (3.9)	97 (3.8)	197 (3.9)	62 (1.7)	50 (1.3)	112 (1.5)	480 (3.2)	484 (3.2)	964 (3.2)
Border Protection and Military Personnel	51 (0.6)	53 (0.6)	104 (0.6)	12 (0.5)	12 (0.5)	24 (0.5)	6 (0.2)	3 (<0.1)	9 (0.1)	69 (0.5)	68 (0.4)	137 (0.5)
Personal Care and In-Home Services	329 (3.7)	303 (3.4)	632 (3.6)	78 (3.1)	102 (4.0)	180 (3.6)	61 (1.6)	67 (1.8)	128 (1.7)	468 (3.1)	472 (3.1)	940 (3.1)
Hospitality and Tourism Workers	145 (1.6)	164 (1.8)	309 (1.7)	39 (1.5)	37 (1.5)	76 (1.5)	43 (1.1)	37 (1.0)	80 (1.1)	227 (1.5)	238 (1.6)	465 (1.5)
Pastoral, Social or Public Health Workers	264 (3.0)	297 (3.3)	561 (3.2)	102 (4.0)	90 (3.6)	192 (3.8)	138 (3.7)	148 (3.9)	286 (3.8)	504 (3.3)	535 (3.5)	1039 (3.4)
Educators and Students	1118 (12.6)	1090 (12.3)	2208 (12.4)	270 (10.7)	276 (10.9)	546 (10.8)	169 (4.5)	185 (4.9)	354 (4.7)	1557 (10.3)	1551 (10.2)	3108 (10.2)
Other	2606 (29.3)	2601 (29.3)	5207 (29.3)	793 (31.3)	817 (32.3)	1610 (31.8)	1431 (38.2)	1432 (38.1)	2863 (38.1)	4830 (31.8)	4850 (31.9)	9680 (31.9)
Location and Living Circumstances Risk	7490 (84.3)	7537 (84.8)	15027 (84.6)	2095 (82.6)	2065 (81.6)	4160 (82.1)	3104 (82.8)	3130 (83.2)	6234 (83.0)	12689 (83.7)	12732 (83.9)	25421 (83.8)
Nursing Home or Assisted Living Facility	6 (<0.1)	12 (0.1)	18 (0.1)	3 (0.1)	12 (0.5)	15 (0.3)	20 (0.5)	11 (0.3)	31 (0.4)	29 (0.2)	35 (0.2)	64 (0.2)
Multi-Family Dwelling	269 (3.0)	306 (3.4)	575 (3.2)	79 (3.1)	91 (3.6)	170 (3.4)	65 (1.7)	66 (1.8)	131 (1.7)	413 (2.7)	463 (3.1)	876 (2.9)
High Density Housing	877 (9.9)	842 (9.5)	1719 (9.7)	196 (7.7)	196 (7.7)	392 (7.7)	240 (6.4)	253 (6.7)	493 (6.6)	1313 (8.7)	1291 (8.5)	2604 (8.6)
Low Density, Multi-Family Setting	958 (10.8)	945 (10.6)	1903 (10.7)	278 (11.0)	303 (12.0)	581 (11.5)	256 (6.8)	244 (6.5)	500 (6.6)	1492 (9.8)	1492 (9.8)	2984 (9.8)
Single Family Home	4773 (53.7)	4813 (54.2)	9586 (53.9)	1380 (54.4)	1304 (51.5)	2684 (53.0)	2257 (60.2)	2281 (60.6)	4538 (60.4)	8410 (55.5)	8398 (55.3)	16808 (55.4)
Other	1313 (14.8)	1336 (15.0)	2649 (14.9)	334 (13.2)	314 (12.4)	648 (12.8)	529 (14.1)	547 (14.5)	1076 (14.3)	2176 (14.3)	2197 (14.5)	4373 (14.4)

Percentages are based on the number of participants in full analysis set (FAS), presented for overall and 3 age stratification groups. Baseline SARS-CoV-2 status was positive if there was immunologic or virologic evidence of prior Covid-19, defined as positive RT-PCR test or positive bAb result at day 1; negative was defined as negative RT-PCR test and negative bAb result at day 1. *White was defined as white and non-Hispanic, and communities of color includes all the others whose race or ethnicity is not unknown, unreported or missing. †Baseline SARS-CoV-2 Status was considered positive if there was immunologic or virologic evidence of prior Covid-19, defined as positive RT-PCR test or bAb result at day 1; negative was defined as negative RT-PCR test and bAb results at day 1. Age and health risk for severe Covid-19 are derived from age and risk factors collected on case report form. Note that some participants were incorrectly stratified on the basis of Covid-19 risk. Data cutoff: March 26, 2021.

Table S6. Solicited Adverse Events Overall and Age Groups by Grade, 1st Injection, Solicited Safety Set

n (%)	Overall		≥18-<65 years		≥65 yrs	
	Placebo N=15151	mRNA-1273 N=15166	Placebo N=11402	mRNA-1273 N=11406	Placebo N=3749	mRNA-1273 N=3760
Any solicited AE	7285 (48.1)	13317 (87.8)	5737 (50.3)	10262 (90.0)	1548 (41.3)	3055 (81.3)
Grade 1	5134 (33.9)	9329 (61.5)	3993 (35.0)	6951 (60.9)	1141 (30.4)	2378 (63.2)
Grade 2	1782 (11.8)	3134 (20.7)	1466 (12.9)	2601 (22.8)	316 (8.4)	533 (14.2)
Grade 3	363 (2.4)	849 (5.6)	274 (2.4)	705 (6.2)	89 (2.4)	144 (3.8)
Grade 4	6 (<0.1)	5 (<0.1)	4 (<0.1)	5 (<0.1)	2 (<0.1)	0
Any Local AE	3009 (19.9)	12765 (84.2)	2436 (21.4)	9961 (87.4)	573 (15.3)	2804 (74.6)
Grade 1	2842 (18.8)	10725 (70.7)	2334 (20.5)	8151 (71.5)	508 (13.6)	2574 (68.5)
Grade 2	89 (0.6)	1511 (10.0)	63 (0.6)	1358 (11.9)	26 (0.7)	153 (4.1)
Grade 3	78 (0.5)	529 (3.5)	39 (0.3)	452 (4.0)	39 (1.0)	77 (2.0)
Grade 4	0	0	0	0	0	0
Local AE						
Pain	2665 (17.6)	12688 (83.7)	2183 (19.1)	9908 (86.9)	482 (12.9)	2780 (73.9)
Grade 1	2551 (16.8)	10985 (72.5)	2116 (18.6)	8360 (73.3)	435 (11.6)	2625 (69.8)
Grade 2	59 (0.4)	1287 (8.5)	44 (0.4)	1182 (10.4)	15 (0.4)	105 (2.8)
Grade 3	55 (0.4)	416 (2.7)	23 (0.2)	366 (3.2)	32 (0.9)	50 (1.3)
Erythema	77 (0.5)	445 (2.9)	54 (0.5)	354 (3.1)	23 (0.6)	91 (2.4)
Grade 1	57 (0.4)	281 (1.9)	39 (0.3)	222 (1.9)	18 (0.5)	59 (1.6)
Grade 2	7 (<0.1)	122 (0.8)	4 (<0.1)	98 (0.9)	3 (<0.1)	24 (0.6)
Grade 3	13 (<0.1)	42 (0.3)	11 (<0.1)	34 (0.3)	2 (<0.1)	8 (0.2)
Swelling	65 (0.4)	935 (6.2)	42 (0.4)	766 (6.7)	23 (0.6)	169 (4.5)
Grade 1	50 (0.3)	608 (4.0)	35 (0.3)	499 (4.4)	15 (0.4)	109 (2.9)
Grade 2	9 (<0.1)	245 (1.6)	4 (<0.1)	205 (1.8)	5 (0.1)	40 (1.1)
Grade 3	6 (<0.1)	82 (0.5)	3 (<0.1)	62 (0.5)	3 (<0.1)	20 (0.5)
Axillary swelling/tenderness*	722 (4.8)	1553 (10.2)	567 (5.0)	1322 (11.6)	155 (4.1)	231 (6.1)
Grade 1	668 (4.4)	1394 (9.2)	534 (4.7)	1180 (10.3)	134 (3.6)	214 (5.7)
Grade 2	27 (0.2)	110 (0.7)	20 (0.2)	105 (0.9)	7 (0.2)	5 (0.1)
Grade 3	27 (0.2)	49 (0.3)	13 (0.1)	37 (0.3)	14 (0.4)	12 (0.3)
Any Systemic AE	6397 (42.2)	8316 (54.8)	5063 (44.4)	6499 (57.0)	1334 (35.6)	1817 (48.3)
Grade 1	4334 (28.6)	5358 (35.3)	3367 (29.5)	4079 (35.8)	967 (25.8)	1279 (34.0)
Grade 2	1746 (11.5)	2504 (16.5)	1442 (12.6)	2050 (18.0)	304 (8.1)	454 (12.1)
Grade 3	311 (2.1)	449 (3.0)	250 (2.2)	365 (3.2)	61 (1.6)	84 (2.2)
Grade 4	6 (<0.1)	5 (<0.1)	4 (<0.1)	5 (<0.1)	2 (<0.1)	0
Systemic AE						
Fever	44 (0.3)	112 (0.7)	37 (0.3)	102 (0.9)	7 (0.2)	10 (0.3)
Grade 1	28 (0.2)	73 (0.5)	25 (0.2)	66 (0.6)	3 (<0.1)	7 (0.2)
Grade 2	8 (<0.1)	24 (0.2)	7 (<0.1)	22 (0.2)	1 (<0.1)	2 (<0.1)
Grade 3	2 (<0.1)	11 (<0.1)	1 (<0.1)	10 (<0.1)	1 (<0.1)	1 (<0.1)
Grade 4	6 (<0.1)	4 (<0.1)	4 (<0.1)	4 (<0.1)	2 (<0.1)	0
Headache	4026 (26.6)	4950 (32.6)	3303 (29.0)	4028 (35.3)	723 (19.3)	922 (24.5)
Grade 1	3297 (21.8)	3947 (26.0)	2668 (23.4)	3168 (27.8)	629 (16.8)	779 (20.7)
Grade 2	532 (3.5)	730 (4.8)	472 (4.1)	640 (5.6)	60 (1.6)	90 (2.4)
Grade 3	197 (1.3)	273 (1.8)	163 (1.4)	220 (1.9)	34 (0.9)	53 (1.4)
Fatigue	4133 (27.3)	5636 (37.2)	3281 (28.8)	4385 (38.5)	852 (22.7)	1251 (33.3)
Grade 1	2705 (17.9)	3585 (23.6)	2100 (18.4)	2732 (24.0)	605 (16.2)	853 (22.7)
Grade 2	1323 (8.7)	1899 (12.5)	1098 (9.6)	1531 (13.4)	225 (6.0)	368 (9.8)
Grade 3	105 (0.7)	151 (1.0)	83 (0.7)	121 (1.1)	22 (0.6)	30 (0.8)
Grade 4	0	1 (<0.1)	0	1 (<0.1)	0	0
Myalgia	2069 (13.7)	3442 (22.7)	1625 (14.3)	2700 (23.7)	444 (11.9)	742 (19.7)
Grade 1	1560 (10.3)	2442 (16.1)	1200 (10.5)	1874 (16.4)	360 (9.6)	568 (15.1)
Grade 2	462 (3.1)	909 (6.0)	387 (3.4)	752 (6.6)	75 (2.0)	157 (4.2)
Grade 3	47 (0.3)	91 (0.6)	38 (0.3)	74 (0.6)	9 (0.2)	17 (0.5)
Arthralgia	1784 (11.8)	2510 (16.6)	1327 (11.6)	1892 (16.6)	457 (12.2)	618 (16.4)

Grade 1	1333 (8.8)	1842 (12.1)	966 (8.5)	1368 (12.0)	367 (9.8)	474 (12.6)
Grade 2	413 (2.7)	607 (4.0)	331 (2.9)	476 (4.2)	82 (2.2)	131 (3.5)
Grade 3	38 (0.3)	60 (0.4)	30 (0.3)	47 (0.4)	8 (0.2)	13 (0.3)
Grade 4	0	1 (<0.1)	0	1 (<0.1)	0	0
Nausea/vomiting	1075 (7.1)	1262 (8.3)	908 (8.0)	1068 (9.4)	167 (4.5)	194 (5.2)
Grade 1	887 (5.9)	1047 (6.9)	749 (6.6)	889 (7.8)	138 (3.7)	158 (4.2)
Grade 2	175 (1.2)	205 (1.4)	151 (1.3)	173 (1.5)	24 (0.6)	32 (0.9)
Grade 3	13 (<0.1)	10 (<0.1)	8 (<0.1)	6 (<0.1)	5 (0.1)	4 (0.1)
Chills	878 (5.8)	1251 (8.3)	730 (6.4)	1050 (9.2)	148 (4.0)	201 (5.3)
Grade 1	706 (4.7)	938 (6.2)	584 (5.1)	780 (6.8)	122 (3.3)	158 (4.2)
Grade 2	158 (1.0)	289 (1.9)	138 (1.2)	253 (2.2)	20 (0.5)	36 (1.0)
Grade 3	14 (<0.1)	24 (0.2)	8 (<0.1)	17 (0.1)	6 (0.2)	7 (0.2)

n=Number of exposed participants who submitted any for the event; percentages are based on the number of exposed participants who submitted any data for the event in the solicited safety set. Any = Grade 1 or higher. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 - 50 mm; G2 = 51 -100 mm; G3 = >100 mm. Toxicity grade for fever is defined as: G1 = 38 - 38.4 C; G2 = 38.5 - 38.9 C; G3 = 39 -40 C; G4 = >40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data cutoff: March 26, 2021.

Table S7. Solicited Adverse Events Overall and Age Groups by Grade, 2nd Injection, Solicited Safety Set

Adverse events n (%)	Overall		≥18-<65 years		≥65 years	
	Placebo N=14578	mRNA N=14691	Placebo N=10929	mRNA-1273 N=11000	Placebo N=3649	mRNA-1273 N=3691
Any solicited AE	6255 (42.9)	13556 (92.3)	4921 (45.0)	10252 (93.2)	1334 (36.6)	3304 (89.5)
Grade 1	4346 (29.8)	4847 (33.0)	3392 (31.0)	3290 (29.9)	954 (26.1)	1557 (42.2)
Grade 2	1558 (10.7)	5800 (39.5)	1266 (11.6)	4592 (41.7)	292 (8.0)	1208 (32.7)
Grade 3	348 (2.4)	2895 (19.7)	261 (2.4)	2358 (21.4)	87 (2.4)	537 (14.5)
Grade 4	3 (<0.1)	14 (<0.1)	2 (<0.1)	12 (0.1)	1 (<0.1)	2 (<0.1)
Any Local AE	2757 (18.9)	13029 (88.7)	2262 (20.7)	9936 (90.3)	495 (13.6)	3093 (83.8)
Grade 1	2594 (17.8)	8789 (59.8)	2145 (19.6)	6424 (58.4)	449 (12.3)	2365 (64.1)
Grade 2	88 (0.6)	3217 (21.9)	73 (0.7)	2709 (24.6)	15 (0.4)	508 (13.8)
Grade 3	75 (0.5)	1023 (7.0)	44 (0.4)	803 (7.3)	31 0.8)	220 6.0)
Grade 4	0	0	0	0	0	0
Local AE						
Pain	2486 (17.1)	12964 (88.3)	2048 (18.7)	9893 (89.9)	438 (12.0)	3071 (83.2)
Grade 1	2384 (16.4)	9508 (64.7)	1978 (18.1)	6933 (63.0)	406 (11.1)	2575 (69.8)
Grade 2	61 (0.4)	2850 (19.4)	48 (0.4)	2454 (22.3)	13 (0.4)	396 (10.7)
Grade 3	41 (0.3)	606 (4.1)	22 (0.2)	506 (4.6)	19 (0.5)	100 (2.7)
Erythema	68 (0.5)	1274 (8.7)	53 (0.5)	989 (9.0)	15 (0.4	285 (7.7)
Grade 1	48 (0.3)	456 (3.1)	36 (0.3)	358 (3.3)	12 (0.3)	98 (2.7)
Grade 2	5 (<0.1)	531 (3.6)	5 (<0.1)	421 (3.8)	0	110 (3.0)
Grade 3	15 (0.1)	287 (2.0)	12 (0.1)	210 (1.9)	3 (<0.1)	77 (2.1)
Swelling	60 (0.4)	1807 (12.3)	46 (0.4)	1399 (12.7)	14 (0.4)	408 (11.1)
Grade 1	38 (0.3)	900 (6.1)	32 (0.3)	706 (6.4)	6 (0.2)	194 (5.3)
Grade 2	10 (<0.1)	652 (4.4)	9 (<0.1)	510 (4.6)	1 (<0.1)	142 (3.8)
Grade 3	12 (<0.1)	255 (1.7)	5 (<0.1)	183 (1.7)	7 (0.2)	72 (2.0)
Axillary swelling/tenderness*	571 (3.9)	2092 (14.2)	474 (4.3)	1777 (16.2)	97 (2.7)	315 (8.5)
Grade 1	523 (3.6)	1735 (11.8)	435 (4.0)	1468 (13.3)	88 (2.4)	267 (7.2)
Grade 2	28 (0.2)	289 (2.0)	27 (0.2)	262 (2.4)	1 (<0.1)	27 (0.7)
Grade 3	20 (0.1)	68 (0.5)	12 (0.1)	47 (0.4)	8 (0.2)	21 (0.6)
Any Systemic AE	5343 (36.7)	11678 (79.5)	4208 (38.5)	9023 (82.0)	1135 (31.1)	2655 (71.9)
Grade 1	3519 (24.1)	3717 (25.3)	2731 (25.0)	2615 (23.8)	788 (21.6)	1102 (29.9)
Grade 2	1535 (10.5)	5611 (38.2)	1248 (11.4)	4458 (40.5)	287 (7.9)	1153 (31.2)
Grade 3	286 (2.0)	2336 (15.9)	227 (2.1)	1938 (17.6)	59 (1.6)	398 (10.8)
Grade 4	3 (<0.1)	14 (<0.1)	2 (<0.1)	12 (0.1)	1 (<0.1)	2 (<0.1)
Systemic AE						
Fever	43 (0.3)	2276 (15.5)	38 (0.3)	1909 (17.4)	5 (0.1)	367 (9.9)
Grade 1	33 (0.2)	1363 (9.3)	30 (0.3)	1112 (10.1)	3 (<0.1)	251 (6.8)
Grade 2	5 (<0.1)	697 (4.7)	4 (<0.1)	600 (5.5)	1 (<0.1)	97 (2.6)
Grade 3	2 (<0.1)	203 (1.4)	2 (<0.1)	185 (1.7)	0	18 (0.5)
Grade 4	3 (<0.1)	13 (<0.1)	2 (<0.1)	12 (0.1)	1 (<0.1)	1 (<0.1)
Headache	3427 (23.5)	8637 (58.8)	2775 (25.4)	6929 (63.0)	652 (17.9)	1708 (46.3)
Grade 1	2740 (18.8)	4815 (32.8)	2182 (20.0)	3669 (33.4)	558 (15.3)	1146 (31.1)
Grade 2	522 (3.6)	3156 (21.5)	461 (4.2)	2701 (24.6)	61 (1.7)	455 (12.3)
Grade 3	165 (1.1)	666 (4.5)	132 (1.2)	559 (5.1)	33 (0.9)	107 (2.9)
Fatigue	3418 (23.5)	9607 (65.4)	2701 (24.7)	7453 (67.8)	717 (19.6)	2154 (58.4)
Grade 1	2181 (15.0)	3431 (23.4)	1701 (15.6)	2527 (23.0)	480 (13.2)	904 (24.5)
Grade 2	1129 (7.7)	4743 (32.3)	912 (8.3)	3748 (34.1)	217 (5.9)	995 (27.0)
Grade 3	108 (0.7)	1433 (9.8)	88 (0.8)	1178 (10.7)	20 (0.5)	255 (6.9)
Myalgia	1824 (12.5)	8529 (58.1)	1425 (13.0)	6789 (61.7)	399 (10.9)	1740 (47.2)
Grade 1	1307 (9.0)	3242 (22.1)	1002 (9.2)	2415 (22.0)	305 (8.4)	827 (22.4)
Grade 2	465 (3.2)	3966 (27.0)	381 (3.5)	3258 (29.6)	84 (2.3)	708 (19.2)
Grade 3	52 (0.4)	1321 (9.0)	42 (0.4)	1116 (10.1)	10 (0.3)	205 (5.6)
Arthralgia	1579 (10.8)	6303 (42.9)	1180 (10.8)	5010 (45.6)	399 (10.9)	1293 (35.1)
Grade 1	1143 (7.8)	2809 (19.1)	841 (7.7)	2111 (19.2)	302 (8.3)	698 (18.9)
Grade 2	392 (2.7)	2719 (18.5)	302 (2.8)	2249 (20.4)	90 (2.5)	470 (12.7)
Grade 3	44 (0.3)	775 (5.3)	37 (0.3)	650 (5.9)	7 (0.2)	125 (3.4)
Nausea/vomiting	941 (6.5)	2794 (19.0)	807 (7.4)	2355 (21.4)	134 (3.7)	439 (11.9)
Grade 1	761 (5.2)	2094 (14.3)	651 (6.0)	1755 (16.0)	110 (3.0)	339 (9.2)

Grade 2	169 (1.2)	678 (4.6)	148 (1.4)	589 (5.4)	21 (0.6)	89 (2.4)
Grade 3	11 (<0.1)	21 (0.1)	8 (<0.1)	11 (0.1)	3 (<0.1)	10 (0.3)
Grade 4	0	1 (<0.1)	0	0	0	1 (<0.1)
Chills	813 (5.6)	6500 (44.3)	662 (6.1)	5357 (48.7)	151 (4.1)	1143 (31.0)
Grade 1	629 (4.3)	2907 (19.8)	505 (4.6)	2316 (21.1)	124 (3.4)	591 (16.0)
Grade 2	167 (1.1)	3402 (23.2)	142 (1.3)	2877 (26.2)	25 (0.7)	525 (14.2)
Grade 3	17 (0.1)	191 (1.3)	15 (0.1)	164 (1.5)	2 (<0.1)	27 (0.7)

n=Number of exposed participants who submitted any for the event; percentages are based on the number of exposed participants who submitted any data for the event in the solicited safety set. Any = Grade 1 or higher. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 - 50 mm; G2 = 51 -100 mm; G3 = >100 mm. Toxicity grade for fever is defined as: G1 = 38 - 38.4 C; G2 = 38.5 - 38.9 C; G3 = 39 -40 C; G4 = >40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data cutoff: March 26, 2021.

Table S8. Solicited Adverse Events by Sex, 1st and 2nd Injections, Solicited Safety Set

	Injection 1				Injection 2			
	Male		Female		Male		Female	
Adverse events n (%)	Placebo N=8050	mRNA-1273 N=7906	Placebo N=7101	mRNA-1273 N=7260	Placebo N=7731	mRNA-1273 N=7646	Placebo N=6847	mRNA-1273 N=7045
Any solicited AE	3625 (45.0)	6761 (85.5)	3660 (51.5)	6556 (90.3)	2963 (38.3)	6921 (90.5)	3292 (48.1)	6635 (94.2)
Grade 1	2654 (33.0)	5060 (64.0)	2480 (34.9)	4269 (58.8)	2140 (27.7)	2945 (38.5)	2206 (32.2)	1902 (27.0)
Grade 2	822 (10.2)	1354 (17.1)	960 (13.5)	1780 (24.5)	683 (8.8)	2846 (37.2)	875 (12.8)	2954 (41.9)
Grade 3	145 (1.8)	346 (4.4)	218 (3.1)	503 (6.9)	138 (1.8)	1126 (14.7)	210 (3.1)	1769 (25.1)
Grade 4	4 (<0.1)	1 (<0.1)	2 (<0.1)	4 (<0.1)	2 (<0.1)	4 (<0.1)	1 (<0.1)	10 (0.1)
Any Local AE	1481 (18.4)	6446 (81.5)	1528 (21.5)	6319 (87.1)	1320 (17.1)	6606 (86.4)	1437 (21.0)	6423 (91.2)
Grade 1	1391 (17.3)	5623 (71.1)	1451 (20.4)	5102 (70.3)	1239 (16.0)	4982 (65.2)	1355 (19.8)	3807 (54.1)
Grade 2	49 (0.6)	601 (7.6)	40 (0.6)	910 (12.5)	40 (0.5)	1249 (16.3)	48 (0.7)	1968 (27.9)
Grade 3	41 (0.5)	222 (2.8)	37 (0.5)	307 (4.2)	41 (0.5)	375 (4.9)	34 (0.5)	648 (9.2)
Local AE								
Pain	1288 (16.0)	6408 (81.1)	1377 (19.4)	6280 (86.5)	1178 (15.2)	6571 (85.9)	1308 (19.1)	6393 (90.8)
Grade 1	1228 (15.3)	5747 (72.7)	1323 (18.6)	5238 (72.2)	1126 (14.6)	5280 (69.1)	1258 (18.4)	4228 (60.0)
Grade 2	33 (0.4)	498 (6.3)	26 (0.4)	789 (10.9)	28 (0.4)	1074 (14.0)	33 (0.5)	1776 (25.2)
Grade 3	27 (0.3)	163 (2.1)	28 (0.4)	253 (3.5)	24 (0.3)	217 (2.8)	17 (0.2)	389 (5.5)
Erythema	50 (0.6)	167 (2.1)	27 (0.4)	278 (3.8)	38 (0.5)	436 (5.7)	30 (0.4)	838 (11.9)
Grade 1	37 (0.5)	106 (1.3)	20 (0.3)	175 (2.4)	30 (0.4)	181 (2.4)	18 (0.3)	275 (3.9)
Grade 2	3 (<0.1)	38 (0.5)	4 (<0.1)	84 (1.2)	3 (<0.1)	148 (1.9)	2 (<0.1)	383 (5.4)
Grade 3	10 (0.1)	23 (0.3)	3 (<0.1)	19 (0.3)	5 (<0.1)	107 (1.4)	10 (0.1)	180 (2.6)
Swelling	41 (0.5)	423 (5.4)	24 (0.3)	512 (7.1)	30 (0.4)	735 (9.6)	30 (0.4)	1072 (15.2)
Grade 1	30 (0.4)	275 (3.5)	20 (0.3)	333 (4.6)	21 (0.3)	415 (5.4)	17 (0.2)	485 (6.9)
Grade 2	6 (<0.1)	106 (1.3)	3 (<0.1)	139 (1.9)	3 (<0.1)	235 (3.1)	7 (0.1)	417 (5.9)
Grade 3	5 (<0.1)	42 (0.5)	1 (<0.1)	40 (0.6)	6 (<0.1)	85 (1.1)	6 (<0.1)	170 (2.4)
Axillary swelling/tenderness*	384 (4.8)	726 (9.2)	338 (4.8)	827 (11.4)	290 (3.8)	890 (11.6)	281 (4.1)	1202 (17.1)
Grade 1	361 (4.5)	675 (8.5)	307 (4.3)	719 (9.9)	266 (3.4)	777 (10.2)	257 (3.8)	958 (13.6)
Grade 2	12 (0.1)	34 (0.4)	15 (0.2)	76 (1.0)	13 (0.2)	92 (1.2)	15 (0.2)	197 (2.8)
Grade 3	11 (0.1)	17 (0.2)	16 (0.2)	32 (0.4)	11 (0.1)	21 (0.3)	9 (0.1)	47 (0.7)
Any Systemic AE	3153 (39.2)	4010 (50.7)	3244 (45.7)	4306 (59.3)	2482 (32.1)	5804 (75.9)	2861 (41.8)	5874 (83.4)
Grade 1	2237 (27.8)	2743 (34.7)	2097 (29.5)	2615 (36.0)	1706 (22.1)	2146 (28.1)	1813 (26.5)	1571 (22.3)
Grade 2	798 (9.9)	1093 (13.8)	948 (13.4)	1411 (19.4)	669 (8.7)	2752 (36.0)	866 (12.6)	2859 (40.6)
Grade 3	114 (1.4)	173 (2.2)	197 (2.8)	276 (3.8)	105 (1.4)	902 (11.8)	181 (2.6)	1434 (20.4)
Grade 4	4 (<0.1)	1 (<0.1)	2 (<0.1)	4 (<0.1)	2 (<0.1)	4 (<0.1)	1 (<0.1)	10 (0.1)
Systemic AE								

Fever	15 (0.2)	50 (0.6)	29 (0.4)	62 (0.9)	22 (0.3)	1000 (13.1)	21 (0.3)	1276 (18.1)
Grade 1	7 (<0.1)	33 (0.4)	21 (0.3)	40 (0.6)	15 (0.2)	609 (8.0)	18 (0.3)	754 (10.7)
Grade 2	2 (<0.1)	10 (0.1)	6 (<0.1)	14 (0.2)	4 (<0.1)	294 (3.8)	1 (<0.1)	403 (5.7)
Grade 3	2 (<0.1)	6 (<0.1)	0	5 (<0.1)	1 (<0.1)	93 (1.2)	1 (<0.1)	110 (1.6)
Grade 4	4 (<0.1)	1 (<0.1)	2 (<0.1)	3 (<0.1)	2 (<0.1)	4 (<0.1)	1 (<0.1)	9 (0.1)
Headache	1844 (22.9)	2215 (28.0)	2182 (30.7)	2735 (37.7)	1494 (19.3)	4043 (52.9)	1933 (28.2)	4594 (65.2)
Grade 1	1595 (19.8)	1863 (23.6)	1702 (24.0)	2084 (28.7)	1243 (16.1)	2535 (33.2)	1497 (21.9)	2280 (32.4)
Grade 2	188 (2.3)	259 (3.3)	344 (4.8)	471 (6.5)	201 (2.6)	1286 (16.8)	321 (4.7)	1870 (26.6)
Grade 3	61 0.8)	93 (1.2)	136 (1.9)	180 (2.5)	50 (0.6)	222 (2.9)	115 (1.7)	444 (6.3)
Fatigue	2041 (25.4)	2667 (33.7)	2092 (29.5)	2969 (40.9)	1620 (21.0)	4700 (61.5)	1798 (26.3)	4907 (69.7)
Grade 1	1396 (17.4)	1786 (22.6)	1309 (18.4)	1799 (24.8)	1076 (13.9)	1876 (24.5)	1105 (16.1)	1555 (22.1)
Grade 2	602 (7.5)	812 (10.3)	721 (10.2)	1087 (15.0)	494 (6.4)	2260 (29.6)	635 (9.3)	2483 (35.3)
Grade 3	43 (0.5)	69 (0.9)	62 (0.9)	82 (1.1)	50 (0.6)	564 (7.4)	58 (0.8)	869 (12.3)
Grade 4	0	0	0	1 (<0.1)	0	0	0	0
Myalgia	1067 (13.3)	1760 (22.3)	1002 (14.1)	1682 (23.2)	883 (11.4)	4226 (55.3)	941 (13.7)	4303 (61.1)
Grade 1	831 (10.3)	1288 (16.3)	729 (10.3)	1154 (15.9)	646 (8.4)	1847 (24.2)	661 (9.7)	1395 (19.8)
Grade 2	216 (2.7)	434 (5.5)	246 (3.5)	475 (6.5)	213 (2.8)	1894 (24.8)	252 (3.7)	2072 (29.4)
Grade 3	20 (0.2)	38 (0.5)	27 (0.4)	53 (0.7)	24 (0.3)	485 (6.3)	28 (0.4)	836 (11.9)
Arthralgia	935 (11.6)	1305 (16.5)	849 (12.0)	1205 (16.6)	757 (9.8)	3126 (40.9)	822 (12.0)	3177 (45.1)
Grade 1	723 (9.0)	987 (12.5)	610 (8.6)	855 (11.8)	562 (7.3)	1591 (20.8)	581 (8.5)	1218 (17.3)
Grade 2	195 (2.4)	295 (3.7)	218 (3.1)	312 (4.3)	177 (2.3)	1274 (16.7)	215 (3.1)	1445 (20.5)
Grade 3	17 (0.2)	23 (0.3)	21 (0.3)	37 (0.5)	18 (0.2)	261 (3.4)	26 (0.4)	514 (7.3)
Grade 4	0	0	0	1 (<0.1)	0	0	0	0
Nausea/vomiting	456 (5.7)	504 (6.4)	619 (8.7)	758 (10.4)	390 (5.0)	1032 (13.5)	551 (8.0)	1762 (25.0)
Grade 1	375 (4.7)	427 (5.4)	512 (7.2)	620 (8.5)	315 (4.1)	817 (10.7)	446 (6.5)	1277 (18.1)
Grade 2	74 (0.9)	73 (0.9)	101 (1.4)	132 (1.8)	69 (0.9)	210 (2.7)	100 (1.5)	468 (6.6)
Grade 3	7 (<0.1)	4 (<0.1)	6 (<0.1)	6 (<0.1)	6 (<0.1)	5 (<0.1)	5 (<0.1)	16 (0.2)
Chills	431 (5.4)	625 (7.9)	447 (6.3)	626 (8.6)	369 (4.8)	3173 (41.5)	444 (6.5)	3327 (47.2)
Grade 1	353 (4.4)	475 (6.0)	353 (5.0)	463 (6.4)	294 (3.8)	1568 (20.5)	335 (4.9)	1339 (19.0)
Grade 2	72 (0.9)	141 (1.8)	86 (1.2)	148 (2.0)	68 (0.9)	1522 (19.9)	99 (1.4)	1880 (26.7)
Grade 3	6 (<0.1)	9 (0.1)	8 (0.1)	15 (0.2)	7 (<0.1)	83 (1.1)	10 (0.1)	108 (1.5)

n=Number of exposed participants who submitted any for the event; percentages are based on the number of exposed participants who submitted any data for the event in the solicited safety set. Any = Grade 1 or higher. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 - 50 mm; G2 = 51 -100 mm; G3 = >100 mm. Toxicity grade for fever is defined as: G1 = 38 - 38.4 C; G2 = 38.5 - 38.9 C; G3 = 39 -40 C; G4 = >40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data cutoff: March 26, 2021.

Table S9. Solicited Adverse Events by Severe Covid-19 Risk After 1st and 2nd Injections, Solicited Safety Set

	Injection 1				Injection 2			
	At Risk		Not at risk		At Risk		Not at risk	
n (%)	Placebo N=3454	mRNA-1273 N=3439	Placebo N=11697	mRNA-1273 N=11727	Placebo N=3323	mRNA-1273 N=3362	Placebo N=11255	mRNA-1273 N=11329
Any solicited AE	1659 (48.0)	2925 (85.1)	5626 (48.1)	10392 (88.6)	1462 (44.0)	3001 (89.3)	4793 (42.6)	10555 (93.2)
Grade 1	1110 (32.1)	2060 (59.9)	4024 (34.4)	7269 (62.0)	996 (30.0)	1305 (38.8)	3350 (29.8)	3542 (31.3)
Grade 2	455 (13.2)	674 (19.6)	1327 (11.3)	2460 (21.0)	378 (11.4)	1127 (33.5)	1180 (10.5)	4673 (41.2)
Grade 3	94 (2.7)	190 (5.5)	269 (2.3)	659 (5.6)	86 (2.6)	566 (16.8)	262 (2.3)	2329 (20.6)
Grade 4	0	1 (<0.1)	6 (<0.1)	4 (<0.1)	2 (<0.1)	3 (<0.1)	1 (<0.1)	11 (<0.1)
Any Local AE	700 (20.3)	2723 (79.2)	2309 (19.7)	10042 (85.7)	622 (18.7)	2852 (84.9)	2135 (19.0)	10177 (89.8)
Grade 1	647 (18.7)	2349 (68.3)	2195 (18.8)	8376 (71.4)	577 (17.4)	2016 (60.0)	2017 (17.9)	6773 (59.8)
Grade 2	27 (0.8)	268 (7.8)	62 (0.5)	1243 (10.6)	20 (0.6)	618 (18.4)	68 (0.6)	2599 (22.9)
Grade 3	26 (0.8)	106 (3.1)	52 (0.4)	423 (3.6)	25 (0.8)	218 (6.5)	50 (0.4)	805 (7.1)
Local AE								
Pain	613 (17.8)	2709 (78.8)	2052 (17.5)	9979 (85.1)	552 (16.6)	2833 (84.3)	1934 (17.2)	10131 (89.4)
Grade 1	576 (16.7)	2408 (70.0)	1975 (16.9)	8577 (73.2)	518 (15.6)	2179 (64.9)	1866 (16.6)	7329 (64.7)
Grade 2	17 (0.5)	218 (6.3)	42 (0.4)	1069 (9.1)	18 (0.5)	528 (15.7)	43 (0.4)	2322 (20.5)
Grade 3	20 (0.6)	83 (2.4)	35 (0.3)	333 (2.8)	16 (0.5)	126 (3.8)	25 (0.2)	480 (4.2)
Erythema	21 (0.6)	104 (3.0)	56 (0.5)	341 (2.9)	15 (0.5)	285 (8.5)	53 (0.5)	989 (8.7)
Grade 1	16 (0.5)	70 (2.0)	41 (0.4)	211 (1.8)	9 (0.3)	101 (3.0)	39 (0.3)	355 (3.1)
Grade 2	2 (<0.1)	28 (0.8)	5 (<0.1)	94 (0.8)	1 (<0.1)	119 (3.5)	4 (<0.1)	412 (3.6)
Grade 3	3 (<0.1)	6 (0.2)	10 (<0.1)	36 (0.2)	5 (0.2)	65 (1.9)	10 (<0.1)	222 (2.0)
Swelling	21 (0.6)	196 (5.7)	44 (0.4)	739 (6.3)	19 (0.6)	431 (12.8)	41 (0.4)	1376 (12.1)
Grade 1	15 (0.4)	130 (3.8)	35 (0.3)	478 (4.1)	13 (0.4)	213 (6.3)	25 (0.2)	687 (6.1)
Grade 2	5 (0.1)	51 (1.5)	4 (<0.1)	194 (1.7)	3 (<0.1)	159 (4.7)	7 (<0.1)	493 (4.4)
Grade 3	1 (<0.1)	15 (0.4)	5 (<0.1)	67 (0.6)	3 (<0.1)	59 (1.8)	9 (<0.1)	196 (1.7)
Axillary swelling/tenderness*	188 (5.4)	337 (9.8)	534 (4.6)	1216 (10.4)	149 (4.5)	448 (13.3)	422 (3.7)	1644 (14.5)
Grade 1	172 (5.0)	304 (8.8)	496 (4.2)	1090 (9.3)	139 (4.2)	364 (10.8)	384 (3.4)	1371 (12.1)
Grade 2	9 (0.3)	16 (0.5)	18 (0.2)	94 (0.8)	5 (0.2)	61 (1.8)	23 (0.2)	228 (2.0)
Grade 3	7 (0.2)	17 (0.5)	20 (0.2)	32 (0.3)	5 (0.2)	23 (0.7)	15 (0.1)	45 (0.4)
Any Systemic AE	1470 (42.6)	1900 (55.2)	4927 (42.1)	6416 (54.7)	1262 (38.0)	2416 (71.9)	4081 (36.3)	9262 (81.8)
Grade 1	952 (27.6)	1210 (35.2)	3382 (28.9)	4148 (35.4)	818 (24.6)	900 (26.8)	2701 (24.0)	2817 (24.9)
Grade 2	441 (12.8)	571 (16.6)	1305 (11.2)	1933 (16.5)	378 (11.4)	1064 (31.7)	1157 (10.3)	4547 (40.1)
Grade 3	77 (2.2)	118 (3.4)	234 (2.0)	331 (2.8)	64 (1.9)	449 (13.4)	222 (2.0)	1887 (16.7)
Grade 4	0	1 (<0.1)	6 (<0.1)	4 (<0.1)	2 (<0.1)	3 (<0.1)	1 (<0.1)	11 (<0.1)
Systemic AE								
Fever	7 (0.2)	23 (0.7)	37 (0.3)	89 (0.8)	10 (0.3)	390 (11.6)	33 (0.3)	1886 (16.7)
Grade 1	6 (0.2)	13 (0.4)	22 (0.2)	60 (0.5)	7 (0.2)	228 (6.8)	26 (0.2)	1135 (10.0)
Grade 2	1 (<0.1)	7 (0.2)	7 (<0.1)	17 (0.1)	1 (<0.1)	115 (3.4)	4 (<0.1)	582 (5.1)
Grade 3	0	2 (<0.1)	2 (<0.1)	9 (<0.1)	0	44 (1.3)	2 (<0.1)	159 (1.4)

Grade 4	0	1 (<0.1)	6 (<0.1)	3 (<0.1)	2 (<0.1)	3 (<0.1)	1 (<0.1)	10 (<0.1)
Headache	890 (25.8)	1090 (31.7)	3136 (26.8)	3860 (32.9)	769 (23.1)	1697 (50.5)	2658 (23.6)	6940 (61.3)
Grade 1	718 (20.8)	860 (25.0)	2579 (22.1)	3087 (26.3)	609 (18.3)	1006 (29.9)	2131 (18.9)	3809 (33.6)
Grade 2	124 (3.6)	154 (4.5)	408 (3.5)	576 (4.9)	126 (3.8)	548 (16.3)	396 (3.5)	2608 (23.0)
Grade 3	48 (1.4)	76 (2.2)	149 (1.3)	197 (1.7)	34 (1.0)	143 (4.3)	131 (1.2)	523 (4.6)
Fatigue	960 (27.8)	1294 (37.6)	3173 (27.1)	4342 (37.0)	809 (24.4)	1914 (57.0)	2609 (23.2)	7693 (67.9)
Grade 1	597 (17.3)	821 (23.9)	2108 (18.0)	2764 (23.6)	501 (15.1)	728 (21.7)	1680 (14.9)	2703 (23.9)
Grade 2	335 (9.7)	431 (12.5)	988 (8.4)	1468 (12.5)	280 (8.4)	912 (27.2)	849 (7.5)	3831 (33.8)
Grade 3	28 (0.8)	42 (1.2)	77 (0.7)	109 (0.9)	28 (0.8)	274 (8.2)	80 (0.7)	1159 (10.2)
Grade 4	0	0	0	1 (<0.1)	0	0	0	0
Myalgia	554 (16.0)	815 (23.7)	1515 (13.0)	2627 (22.4)	482 (14.5)	1670 (49.7)	1342 (11.9)	6859 (60.5)
Grade 1	411 (11.9)	575 (16.7)	1149 (9.8)	1867 (15.9)	344 (10.4)	707 (21.0)	963 (8.6)	2535 (22.4)
Grade 2	133 (3.9)	215 (6.3)	329 (2.8)	694 (5.9)	127 (3.8)	743 (22.1)	338 (3.0)	3223 (28.5)
Grade 3	10 (0.3)	25 (0.7)	37 (0.3)	66 (0.6)	11 (0.3)	220 (6.5)	41 (0.4)	1101 (9.7)
Arthralgia	514 (14.9)	635 (18.5)	1270 (10.9)	1875 (16.0)	424 (12.8)	1271 (37.8)	1155 (10.3)	5032 (44.4)
Grade 1	366 (10.6)	439 (12.8)	967 (8.3)	1403 (12.0)	310 (9.3)	613 (18.2)	833 (7.4)	2196 (19.4)
Grade 2	139 (4.0)	177 (5.1)	274 (2.3)	430 (3.7)	103 (3.1)	511 (15.2)	289 (2.6)	2208 (19.5)
Grade 3	9 (0.3)	19 (0.6)	29 (0.2)	41 (0.3)	11 (0.3)	147 (4.4)	33 (0.3)	628 (5.5)
Grade 4	0	0	0	1 (<0.1)	0	0	0	0
Nausea/vomiting	289 (8.4)	312 (9.1)	786 (6.7)	950 (8.1)	269 (8.1)	547 (16.3)	672 (6.0)	2247 (19.8)
Grade 1	244 (7.1)	251 (7.3)	643 (5.5)	796 (6.8)	219 (6.6)	409 (12.2)	542 (4.8)	1685 (14.9)
Grade 2	44 (1.3)	56 (1.6)	131 (1.1)	149 (1.3)	48 (1.4)	129 (3.8)	121 (1.1)	549 (4.8)
Grade 3	1 (<0.1)	5 (0.1)	12 (0.1)	5 (<0.1)	2 (<0.1)	9 (0.3)	9 (<0.1)	12 (0.1)
Grade 4	0	0	0	0	0	0	0	1 (<0.1)
Chills	222 (6.4)	276 (8.0)	656 (5.6)	975 (8.3)	191 (5.7)	1160 (34.5)	622 (5.5)	5340 (47.1)
Grade 1	184 (5.3)	203 (5.9)	522 (4.5)	735 (6.3)	150 (4.5)	547 (16.3)	479 (4.3)	2360 (20.8)
Grade 2	36 (1.0)	64 (1.9)	122 (1.0)	225 (1.9)	38 (1.1)	577 (17.2)	129 (1.1)	2825 (24.9)
Grade 3	2 (<0.1)	9 (0.3)	12 (0.1)	15 (0.1)	3 (<0.1)	36 (1.1)	14 (0.1)	155 (1.4)

n=Number of exposed participants who submitted any for the event; percentages are based on the number of exposed participants who submitted any data for the event in the solicited safety set. At risk includes those ≥65 years and those <65 years who were considered at increased risk for severe Covid-19 illness having at least 1 of the following CDC-defined risk factors at screening: chronic lung disease (eg, emphysema and chronic bronchitis, idiopathic pulmonary fibrosis, and cystic fibrosis) or moderate to severe asthma, significant cardiac disease (eg, heart failure, coronary artery disease, congenital heart disease, cardiomyopathies, and pulmonary hypertension), severe obesity (body mass index ≥ 40 kg/m2), diabetes (Type 1, Type 2 or gestational), liver disease, Human Immunodeficiency Virus (HIV) infection. Not at risk includes those <65 years without risk factors. Any = Grade 1 or higher. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 - 50 mm; G2 = 51 -100 mm; G3 = >100 mm. Toxicity grade for fever is defined as: G1 = 38 - 38.4 C; G2 = 38.5 - 38.9 C; G3 = 39 -40 C; G4 = >40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data cutoff: March 26, 2021.

Table S10. Number of Days Reporting Solicited Adverse Events After 1st and 2nd Injections, Solicited Safety Set

	Vaccination 1			Vaccination 2		
Duration days	**Placebo N=15151**	**mRNA-1273 N=15166**	**Total N=30317**	**Placebo N=14578**	**mRNA-1273 N=14691**	**Total N=29269**
Any solicited (n)	7285	13317	20602	6255	13556	19811
Mean days (SD)	3.3 (5.4)	3.5 (4.2)	3.4 (4.6)	3.7 (8.7)	4.2 (7.8)	4.0 (8.1)
Any local (n)	3009	12765	15774	2757	13029	15786
Mean days (SD)	2.0 (2.9)	2.7 (2.2)	2.5 (2.4)	2.2 (6.4)	3.2 (3.3)	3.0 (4.0)
Pain (n)	2665	12688	15353	2486	12964	15450
Mean, days (SD)	1.7 (2.3)	2.5 (1.6)	2.3 (1.8)	1.9 (4.9)	3.0 (2.5)	2.8 (3.0)
Erythema (n)	77	445	522	68	1274	1342
Mean, days (SD)	4.2 (6.2)	2.8 (4.0)	3.0 (4.4)	3.8 (5.3)	2.7 (2.7)	2.7 (2.9)
Swelling (n)	65	935	1000	60	1807	1867
Mean, days (SD)	6.8 (8.8)	2.2 (2.7)	2.5 (3.6)	4.2 (5.3)	2.5 (2.1)	2.5 (2.3)
Axillary swelling/tenderness* (n)	722	1553	2275	571	2092	2663
Mean, days (SD)	2.1 (2.9)	2.3 (3.3)	2.3 (3.2)	3.0 (11.5)	2.5 (5.2)	2.6 (7.0)
Any Systemic AR	6397	8316	14713	5343	11678	17021
Mean, days (SD)	3.3 (5.5)	3.1 (4.8)	3.2 (5.1)	3.7 (8.7)	3.4 (7.9)	3.5 (8.2)
Fever (n)	44	112	156	43	2276	2319
Mean, days (SD)	1.4 (0.6)	1.3 (1.0)	1.3 (0.9)	1.4 (1.6)	1.1 (0.4)	1.1 (0.5)
Headache (n)	4026	4950	8976	3427	8637	12064
Mean, days (SD)	2.2 (2.8)	2.1 (2.4)	2.2 (2.6)	2.4 (5.0)	2.4 (4.8)	2.4 (4.9)
Fatigue (n)	4133	5636	9769	3418	9607	13025
Mean, days (SD)	2.9 (4.4)	2.8 (3.9)	2.8 (4.1)	3.3 (8.3)	2.8 (6.5)	2.9 (7.0)
Myalgia (n)	2069	3442	5511	1824	8529	10353
Mean, days (SD)	2.8 (3.9)	2.4 (3.6)	2.5 (3.7)	3.7 (9.8)	2.2 (4.2)	2.4 (5.7)
Arthralgia (n)	1784	2510	4294	1579	6303	7882
Mean, days (SD)	3.5 (7.5)	2.9 (6.7)	3.1 (7.0)	4.1 (10.0)	2.3 (4.7)	2.7 (6.2)
Nausea/vomiting (n)	1075	1262	2337	941	2794	3735
Mean, days (SD)	1.8 (2.1)	1.7 (1.7)	1.7 (1.9)	2.0 (5.8)	1.7 (3.7)	1.8 (4.3)
Chills (n)	878	1251	2129	813	6500	7313
Mean, days (SD)	1.7 (1.9)	1.5 (1.7)	1.6 (1.8)	2.2 (7.4)	1.5 (2.3)	1.6 (3.3)

n = Number of exposed participants who reported the event on any day within 7 days of the first injection. Number of days is calculated as the days of the solicited adverse event reported within the 7 days of injection including the day of injection. If the solicited AR continued beyond 7 days, the consecutive days a solicited adverse reaction was reported after 7 days are included. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data-cutoff date: March 26, 2021.

Table S11. Solicited Adverse Events by SARS-CoV-2 Baseline Status and grade, 1st Injection, Solicited Safety Set

	Baseline SARS-CoV-2 negative		Baseline SARS-CoV-2 positive		Missing data	
	Placebo	mRNA-1273	Placebo	mRNA-1273	Placebo	mRNA-1273
n (%)	N=14730	N=14733	N=337	N=346	N=84	N=87
Any solicited AE	7105 (48.2)	12976 (88.1)	138 (40.9)	265 (76.6)	42 (50.0)	76 (87.4)
Grade 1	5015 (34.0)	9136 (62.0)	83 (24.6)	137 (39.6)	36 (42.9)	56 (64.4)
Grade 2	1736 (11.8)	3022 (20.5)	41 (12.2)	98 (28.3)	5 (6.0)	14 (16.1)
Grade 3	349 (2.4)	814 (5.5)	13 (3.9)	29 (8.4)	1 (1.2)	6 (6.9)
Grade 4	5 (<0.1)	4 (<0.1)	1 (0.3)	1 (0.3)	0	0
Any Local AE	2934 (19.9)	12442 (84.5)	60 (17.8)	250 (72.3)	15 (17.9)	73 (83.9)
Grade 1	2771 (18.8)	10481 (71.2)	56 (16.6)	180 (52.0)	15 (17.9)	64 (73.6)
Grade 2	88 (0.6)	1449 (9.8)	1 (0.3)	56 (16.2)	0	6 (6.9)
Grade 3	75 (0.5)	512 (3.5)	3 (0.9)	14 (4.0)	0	3 (3.4)
Local AE						
Pain	2596 (17.6)	12369 (84.0)	56 (16.6)	247 (71.4)	13 (15.5)	72 (82.8)
Grade 1	2484 (16.9)	10735 (72.9)	54 (16.0)	184 (53.2)	13 (15.5)	66 (75.9)
Grade 2	58 (0.4)	1232 (8.4)	1 (0.3)	52 (15.0)	0	3 (3.4)
Grade 3	54 (0.4)	402 (2.7)	1 (0.3)	11 (3.2)	0	3 (3.4)
Erythema	74 (0.5)	429 (2.9)	3 (0.9)	10 (2.9)	0	6 (6.9)
Grade 1	56 (0.4)	272 (1.8)	1 (0.3)	6 (1.7)	0	3 (3.4)
Grade 2	7 (<0.1)	117 (0.8)	0	2 (0.6)	0	3 (3.4)
Grade 3	11 (<0.1)	40 (0.3)	2 (0.6)	2 (0.6)	0	0
Swelling	63 (0.4)	910 (6.2)	2 (0.6)	19 (5.5)	0	6 (6.9)
Grade 1	48 (0.3)	593 (4.0)	2 (0.6)	10 (2.9)	0	5 (5.7)
Grade 2	9 (<0.1)	236 (1.6)	0	8 (2.3)	0	1 (1.1)
Grade 3	6 (<0.1)	81 (0.5)	0	1 (0.3)	0	0
Axillary swelling/tenderness*	701 (4.8)	1487 (10.1)	18 (5.3)	56 (16.2)	3 (3.6)	10 (11.5)
Grade 1	648 (4.4)	1344 (9.1)	17 (5.0)	40 (11.6)	3 (3.6)	10 (11.5)
Grade 2	27 (0.2)	98 (0.7)	0	12 (3.5)	0	0
Grade 3	26 (0.2)	45 (0.3)	1 (0.3)	4 (1.2)	0	0
Any Systemic AE	6239 (42.4)	8053 (54.7)	122 (36.2)	214 (61.8)	36 (42.9)	49 (56.3)
Grade 1	4234 (28.7)	5214 (35.4)	70 (20.8)	108 (31.2)	30 (35.7)	36 (41.4)
Grade 2	1701 (11.5)	2412 (16.4)	40 (11.9)	82 (23.7)	5 (6.0)	10 (11.5)
Grade 3	299 (2.0)	423 (2.9)	11 (3.3)	23 (6.6)	1 (1.2)	3 (3.4)
Grade 4	5 (<0.1)	4 (<0.1)	1 (0.3)	1 (0.3)	0	0
Systemic AE						
Fever	38 (0.3)	78 (0.5)	6 (1.8)	33 (9.5)	0	1 (1.2)
Grade 1	25 (0.2)	52 (0.4)	3 (0.9)	20 (5.8)	0	1 (1.2)
Grade 2	6 (<0.1)	14 (<0.1)	2 (0.6)	10 (2.9)	0	0
Grade 3	2 (<0.1)	9 (<0.1)	0	2 (0.6)	0	0
Grade 4	5 (<0.1)	3 (<0.1)	1 (0.3)	1 (0.3)	0	0
Headache	3917 (26.6)	4787 (32.5)	83 (24.6)	134 (38.7)	26 (31.0)	29 (33.3)
Grade 1	3214 (21.8)	3833 (26.0)	60 (17.8)	89 (25.7)	23 (27.4)	25 (28.7)
Grade 2	514 (3.5)	695 (4.7)	16 (4.7)	33 (9.5)	2 (2.4)	2 (2.3)

Grade 3	189 (1.3)	259 (1.8)	7 (2.1)	12 (3.5)	1 (1.2)	2 (2.3)
Fatigue	4038 (27.4)	5466 (37.1)	72 (21.4)	138 (39.9)	23 (27.4)	32 (36.8)
Grade 1	2646 (18.0)	3490 (23.7)	40 (11.9)	71 (20.5)	19 (22.6)	24 (27.6)
Grade 2	1292 (8.8)	1834 (12.5)	28 (8.3)	57 (16.5)	3 (3.6)	8 (9.2)
Grade 3	100 (0.7)	141 (1.0)	4 (1.2)	10 (2.9)	1 (1.2)	0
Grade 4	0	1 (<0.1)	0	0	0	0
Myalgia	2011 (13.7)	3295 (22.4)	47 (13.9)	128 (37.0)	11 (13.1)	19 (21.8)
Grade 1	1524 (10.3)	2355 (16.0)	27 (8.0)	71 (20.5)	9 (10.7)	16 (18.4)
Grade 2	443 (3.0)	857 (5.8)	18 (5.3)	50 (14.5)	1 (1.2)	2 (2.3)
Grade 3	44 (0.3)	83 (0.6)	2 (0.6)	7 (2.0)	1 (1.2)	1 (1.1)
Arthralgia	1735 (11.8)	2406 (16.3)	40 (11.9)	88 (25.4)	9 (10.7)	16 (18.4)
Grade 1	1305 (8.9)	1776 (12.1)	21 (6.2)	54 (15.6)	7 (8.3)	12 (13.8)
Grade 2	395 (2.7)	574 (3.9)	17 (5.0)	29 (8.4)	1 (1.2)	4 (4.6)
Grade 3	35 (0.2)	55 (0.4)	2 (0.6)	5 (1.4)	1 (1.2)	0
Grade 4	0	1 (<0.1)	0	0	0	0
Nausea/vomiting	1044 (7.1)	1210 (8.2)	25 (7.4)	43 (12.4)	6 (7.1)	9 (10.3)
Grade 1	866 (5.9)	1009 (6.9)	17 (5.0)	30 (8.7)	4 (4.8)	8 (9.2)
Grade 2	165 (1.1)	191 (1.3)	8 (2.4)	13 (3.8)	2 (2.4)	1 (1.1)
Grade 3	13 (<0.1)	10 (<0.1)	0	0	0	0
Chills	846 (5.7)	1162 (7.9)	27 (8.0)	81 (23.4)	5 (6.0)	8 (9.2)
Grade 1	684 (4.6)	891 (6.0)	17 (5.0)	43 (12.4)	5 (6.0)	4 (4.6)
Grade 2	149 (1.0)	250 (1.7)	9 (2.7)	35 (10.1)	0	4 (4.6)
Grade 3	13 (<0.1)	21 (0.1)	1 (0.3)	3 (0.9)	0	0

CI = Confidence intervals. N1 = Number of exposed participants who submitted any data for the event. Any = Grade 1 or higher. Percentages are based on the number of exposed participants who submitted any data for the event. 95% CI is calculated using the Clopper-Pearson method. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 — 50 mm; G2 = 51 — 100 mm; G3 = > 100 mm. Toxicity grade for Fever is defined as: G1 = 38 — 38.4 C; G2 = 38.5 — 38.9 C; G3 = 39 — 40 C; G4 = > 40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data-cutoff date: March 26, 2021.

Table S12. Solicited Adverse Events by SARS-CoV-2 Baseline Status and Grade, 2nd Injection, Solicited Safety Set

n (%)	Baseline SARS-CoV-2 negative		Baseline SARS-CoV-2 positive		Missing data	
	Placebo N=14267	mRNA-1273 N=14378	Placebo N=233	mRNA-1273 N=232	Placebo N=78	mRNA-1273 N=81
Any solicited AE	6141 (43.0)	13294 (92.5)	82 (35.2)	187 (80.6)	32 (41.0)	75 (92.6)
Grade 1	4269 (29.9)	4739 (33.0)	52 (22.3)	90 (38.8)	25 (32.1)	18 (22.2)
Grade 2	1524 (10.7)	5692 (39.6)	27 (11.6)	68 (29.3)	7 (9.0)	40 (49.4)
Grade 3	345 (2.4)	2849 (19.8)	3 (1.3)	29 (12.5)	0	17 (21.0)
Grade 4	3 (<0.1)	14 (<0.1)	0	0	0	0
Any Local AE	2699 (18.9)	12783 (88.9)	42 (18.1)	172 (74.1)	16 (20.5)	74 (91.4)
Grade 1	2543 (17.8)	8620 (60.0)	35 (15.1)	125 (53.9)	16 (20.5)	44 (54.3)
Grade 2	83 (0.6)	3160 (22.0)	5 (2.2)	36 (15.5)	0	21 (25.9)
Grade 3	73 (0.5)	1003 (7.0)	2 (0.9)	11 (4.7)	0	9 (11.1)
Local AR						
Pain	2435 (17.1)	12722 (88.5)	36 (15.5)	169 (72.8)	15 (19.2)	73 (90.1)
Grade 1	2337 (16.4)	9330 (64.9)	32 (13.8)	126 (54.3)	15 (19.2)	52 (64.2)
Grade 2	58 (0.4)	2797 (19.5)	3 (1.3)	36 (15.5)	0	17 (21.0)
Grade 3	40 (0.3)	595 (4.1)	1 (0.4)	7 (3.0)	0	4 (4.9)
Erythema	66 (0.5)	1259 (8.8)	1 (0.4)	9 (3.9)	1 (1.3)	6 (7.4)
Grade 1	47 (0.3)	452 (3.1)	0	2 (0.9)	1 (1.3)	2 (2.5)
Grade 2	5 (<0.1)	527 (3.7)	0	4 (1.7)	0	0
Grade 3	14 (<0.1)	280 (1.9)	1 (0.4)	3 (1.3)	0	4 (4.9)
Swelling	59 (0.4)	1783 (12.4)	1 (0.4)	11 (4.7)	0	13 (16.0)
Grade 1	38 (0.3)	890 (6.2)	0	4 (1.7)	0	6 (7.4)
Grade 2	9 (<0.1)	642 (4.5)	1 (0.4)	5 (2.2)	0	5 (6.2)
Grade 3	12 (<0.1)	251 (1.7)	0	2 (0.9)	0	2 (2.5)
Axillary swelling/tenderness*	557 (3.9)	2047 (14.2)	11 (4.7)	32 (13.8)	3 (3.8)	13 (16.0)
Grade 1	512 (3.6)	1704 (11.9)	8 (3.4)	22 (9.5)	3 (3.8)	9 (11.1)
Grade 2	25 (0.2)	277 (1.9)	3 (1.3)	8 (3.4)	0	4 (4.9)
Grade 3	20 (0.1)	66 (0.5)	0	2 (0.9)	0	0
Any Systemic AE	5241 (36.7)	11459 (79.7)	73 (31.3)	152 (65.5)	29 (37.2)	67 (82.7)
Grade 1	3453 (24.2)	3642 (25.3)	44 (18.9)	61 (26.3)	22 (28.2)	14 (17.3)
Grade 2	1500 (10.5)	5498 (38.2)	28 (12.0)	70 (30.2)	7 (9.0)	43 (53.1)
Grade 3	285 (2.0)	2305 (16.0)	1 (0.4)	21 (9.1)	0	10 (12.3)
Grade 4	3 (<0.1)	14 (<0.1)	0	0	0	0
Systemic AE						
Fever	42 (0.3)	2235 (15.6)	1 (0.4)	31 (13.4)	0	10 (12.5)
Grade 1	32 (0.2)	1340 (9.3)	1 (0.4)	20 (8.6)	0	3 (3.8)
Grade 2	5 (<0.1)	682 (4.7)	0	9 (3.9)	0	6 (7.5)
Grade 3	2 (<0.1)	200 (1.4)	0	2 (0.9)	0	1 (1.3)
Grade 4	3 (<0.1)	13 (<0.1)	0	0	0	0
Headache	3363 (23.6)	8488 (59.1)	43 (18.5)	98 (42.2)	21 (26.9)	51 (63.0)
Grade 1	2688 (18.8)	4725 (32.9)	35 (15.1)	61 (26.3)	17 (21.8)	29 (35.8)

Grade 2	510 (3.6)	3105 (21.6)	8 (3.4)	31 (13.4)	4 (5.1)	20 (24.7)
Grade 3	165 (1.2)	658 (4.6)	0	6 (2.6)	0	2 (2.5)
Fatigue	3344 (23.4)	9446 (65.7)	54 (23.3)	106 (45.7)	20 (25.6)	55 (67.9)
Grade 1	2134 (15.0)	3375 (23.5)	31 (13.4)	42 (18.1)	16 (20.5)	14 (17.3)
Grade 2	1103 (7.7)	4655 (32.4)	22 (9.5)	52 (22.4)	4 (5.1)	36 (44.4)
Grade 3	107 (0.8)	1416 (9.9)	1 (0.4)	12 (5.2)	0	5 (6.2)
Myalgia	1775 (12.4)	8357 (58.1)	34 (14.7)	117 (50.4)	15 (19.2)	55 (67.9)
Grade 1	1271 (8.9)	3166 (22.0)	22 (9.5)	60 (25.9)	14 (17.9)	16 (19.8)
Grade 2	452 (3.2)	3886 (27.0)	12 (5.2)	46 (19.8)	1 (1.3)	34 (42.0)
Grade 3	52 (0.4)	1305 (9.1)	0	11 (4.7)	0	5 (6.2)
Arthralgia	1543 (10.8)	6181 (43.0)	26 (11.2)	77 (33.2)	10 (12.8)	45 (55.6)
Grade 1	1115 (7.8)	2758 (19.2)	19 (8.2)	37 (15.9)	9 (11.5)	14 (17.3)
Grade 2	384 (2.7)	2655 (18.5)	7 (3.0)	36 (15.5)	1 (1.3)	28 (34.6)
Grade 3	44 (0.3)	768 (5.3)	0	4 (1.7)	0	3 (3.7)
Nausea/vomiting	922 (6.5)	2741 (19.1)	13 (5.6)	33 (14.2)	6 (7.7)	20 (24.7)
Grade 1	747 (5.2)	2052 (14.3)	10 (4.3)	25 (10.8)	4 (5.1)	17 (21.0)
Grade 2	164 (1.1)	668 (4.6)	3 (1.3)	7 (3.0)	2 (2.6)	3 (3.7)
Grade 3	11 (<0.1)	20 (0.1)	0	1 (0.4)	0	0
Grade 4	0	1 (<0.1)	0	0	0	0
Chills	790 (5.5)	6384 (44.4)	19 (8.2)	80 (34.5)	4 (5.1)	36 (44.4)
Grade 1	610 (4.3)	2854 (19.9)	16 (6.9)	40 (17.2)	3 (3.8)	13 (16.0)
Grade 2	163 (1.1)	3340 (23.2)	3 (1.3)	40 (17.2)	1 (1.3)	22 (27.2)
Grade 3	17 (0.1)	190 (1.3)	0	0	0	1 (1.2)

CI = Confidence intervals. N1 = Number of exposed participants who submitted any data for the event. Any = Grade 1 or higher. Percentages are based on the number of exposed participants who submitted any data for the event. 95% CI is calculated using the Clopper-Pearson method. Toxicity grade for Erythema (Redness) is defined as: G1 = 25 — 50 mm; G2 = 51 — 100 mm; G3 = > 100 mm. Toxicity grade for Fever is defined as: G1 = 38 — 38.4 C; G2 = 38.5 — 38.9 C; G3 = 39 — 40 C; G4 = >40 C. *Localized axillary swelling or tenderness ipsilateral to the vaccination arm. Data-cutoff date: March 26, 2021.

Table S13. Solicited Adverse Events Occurring after Day 8 or Beyond Post-Injection, Safety Set

Category	1st injection		2nd injection	
	Placebo N=15151	mRNA-1273 N=15166	Placebo N=14578	mRNA-1273 N=14691
Any local AE occurring at day 8 or beyond	158 (1.0)	514 (3.4)	199 (1.4)	356 (2.4)
Started within 7 days of injection and continued beyond 7 days	130 (0.9)	351 (2.3)	122 (0.8)	308 (2.1)
Solicited AE within 7 days, and re-started on day 8 or afterwards	10 (<0.1)	83 (0.5)	20 (0.1)	38 (0.3)
No solicited AE within 7 days and AE started on day 8 or afterwards	18 (0.1)	80 (0.5)	57 (0.4)	10 (<0.1)
Pain at day 8 or beyond	70 (0.5)	156 (1.0)	116 (0.8)	186 (1.3)
Started within 7 days of the injection and continued beyond 7 days	56 (0.4)	102 (0.7)	58 (0.4)	155 (1.1)
Solicited AE within 7 days, and re-started on day 8 or afterwards	6 (<0.1)	53 (0.3)	17 (0.1)	31 (0.2)
No solicited AE within 7 days, and AE started on day 8 or afterwards	8 (<0.1)	1 (<0.1)	41 (0.3)	0
Erythema (redness) occurred at day 8 or beyond	27 (0.2)	117 (0.8)	21 (0.1)	78 (0.5)
Started within 7 days of the injection and continued beyond 7 days	20 (0.1)	34 (0.2)	13 (<0.1)	70 (0.5)
Solicited AE within 7 days, and re-started on day 8 or afterwards	0	15 (<0.1)	0	2 (<0.1)
No solicited AE within 7 days, and AE started on day 8 or afterwards	7 (<0.1)	68 (0.4)	8 (<0.1)	6 (<0.1)
Swelling (hardness) occurred at day 8 or beyond	25 (0.2)	88 (0.6)	22 (0.2)	76 (0.5)
Started within 7 days of the injection and continued beyond 7 days	22 (0.1)	33 (0.2)	16 (0.1)	70 (0.5)
Solicited AE within 7 days, and re-started on day 8 or afterwards	0	19 (0.1)	0	2 (<0.1)
No solicited AE within 7 days, and AE started on day 8 or afterwards	3 (<0.1)	36 (0.2)	6 (<0.1)	4 (<0.1)
Axillary swelling or tenderness occurred at day 8 or beyond	62 (0.4)	243 (1.6)	57 (0.4)	101 (0.7)
Started within 7 days of the injection and continued beyond 7 days	54 (0.4)	223 (1.5)	48 (0.3)	90 (0.6)
Solicited AE within 7 days, and re-started on day 8 or afterwards	5 (<0.1)	12 (<0.1)	4 (<0.1)	7 (<0.1)
No solicited AE within 7 days, and AE started on day 8 or afterwards	3 (<0.1)	8 (<0.1)	5 (<0.1)	4 (<0.1)

Participants with solicited adverse events on day 8 or beyond, independent of the start date. Data-cutoff date:: March 26, 2021

Table S14. Summary of Unsolicited AEs Overall and Age Groups Up to 28 days After Any Injection, Safety Set

Unsolicited Adverse Event n (%)	Overall Safety Set		≥18-<65 years		≥65 years	
	Placebo N=15162	mRNA-1273 N=15184	Placebo (N=11411)	mRNA-1273 (N=11415)	Placebo N=3750	mRNA-1273 N=3770
Regardless of relationship to study vaccination						
All	4338 (28.6)	4752 (31.3)	3275 (28.7)	3515 (30.8)	1063 (28.3)	1237 (32.8)
Serious	104 (0.7)	98 (0.6)	54 (0.5)	59 (0.5)	50 (1.3)	39 (1.0)
Fatal	2 (<0.1)	2 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)
Medically-attended	1940 (12.8)	1819 (12.0)	1419 (12.4)	1311 (11.5)	521 (13.9)	508 (13.5)
Leading to discontinuation from study vaccine*	92 (0.6)	61 (0.4)	70 (0.6)	49 (0.4)	22 (0.6)	12 (0.3)
Leading to discontinuation from study†	6 (<0.1)	9 (<0.1)	3 (<0.1)	7 (<0.1)	3 (<0.1)	2 (<0.1)
Severe	233 (1.5)	258 (1.7)	152 (1.3)	177 (1.6)	81 (2.2)	81 (2.1)
Related to study vaccination						
All	1236 (8.2)	2067 (13.6)	945 (8.3)	1580 (13.8)	291 (7.8)	487 (12.9)
Serious	3 (<0.1)	8 (<0.1)	2 (<0.1)	6 (<0.1)	1 (<0.1)	2 (<0.1)
Fatal	0	0	0	0	0	0
Medically-attended	95 (0.6)	198 (1.3)	78 (0.7)	161 (1.4)	17 (0.5)	37 (1.0)
Leading to discontinuation from study vaccine*	14 (<0.1)	20 (0.1)	8 (<0.1)	17 (0.1)	6 (0.2)	3 (<0.1)
Leading to discontinuation from study†	0	1 (<0.1)	0	1 (<0.1)	0	0
Severe	31 (0.2)	83 (0.5)	20 (0.2)	59 (0.5)	11 (0.3)	24 (0.6)

An adverse event is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on overall safety set. *AEs leading to study discontinuation 28 days after first dose. †AEs leading to discontinuation from study after either dose. Data-cutoff date: March 26, 2021.

Table S15. Summary Unsolicited AEs Reported by ≥1% of Participants in Any Treatment Group up to 28 Days After Any Injection, Safety Set

System Organ Class Preferred Term n (%)	Placebo (N=15162)	mRNA-1273 (N=15184)
Number of participants reporting unsolicited AEs	4338 (28.6)	4748 (31.3)
Number of unsolicited AEs	8599	9533
Nervous system disorders	881 (5.8)	1008 (6.6)
Headache	687(4.5)	744 (4.9)
Respiratory, thoracic and mediastinal disorders	667 (4.4)	603 (4.0)
Cough	165 (1.1)	177 (1.2)
Oropharyngeal pain	232 (1.5)	158 (1.0)
Nasal congestion	165 (1.1)	155 (1.0)
Musculoskeletal and connective tissue disorders	1017 (6.7	1007 (6.6)
Arthralgia	389 (2.6)	391 (2.6)
Myalgia	388 (2.6)	387 (2.5)
General disorders and administration site conditions	1065 (7.0)	1606 (10.6)
Fatigue	666 (4.4)	752 (5.0)
Injection site pain	118 (0.8)	258 (1.7)
Gastrointestinal disorders	567 (3.7)	599 (3.9)
Diarrhea	199 (1.3)	204 (1.3)
Nausea	164 (1.1)	162 (1.1)
Vascular disorders	204 (1.3)	198 (1.3)
Hypertension	161 (1.1)	153 (1.0)
Blood and lymphatic system disorders	148 (1.0)	292 (1.9)
Lymphadenopathy	127 (0.8)	264 (1.7)

AE = adverse event. An AE is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on the number of participants in the safety set. All AEs were coded using MedDRA Version 23.0. Data-cutoff date: March 26, 2021.

Table S16. Unsolicited Severe AEs Reported by >5 Participants in Any Treatment Group up to 28 Days After Any Injection, Overall Safety Set

System Organ Class Preferred Term n (%)	Placebo (N=15166)	mRNA-1273 (N=15185)
Number of participants reporting unsolicited severe AEs	233 (1.5)	258 (1.7)
Nervous system disorders		
Headache	11 (<0.1)	14 (<0.1)
Cardiac disorders		
Bradycardia	3 (<0.1)	4 (<0.1)
Atrial Fibrillation	3 (<0.1)	4 (<0.1)
Vascular disorders		
Hypertension	34 (0.2)	28 (0.2)
Systolic Hypertension	3 (<0.1)	3 (<0.1)
Gastrointestinal disorders		
Nausea	1 (<0.1)	5 (<0.1)
Abdominal pain	2 (<0.1)	4 (<0.1)
Musculoskeletal and connective tissue disorders		
Myalgia	4 (<0.1)	9 (<0.1)
Arthralgia	7 (<0.1)	7 (<0.1)
Back pain	7 (<0.1)	1 (<0.1)
General disorders and administration site conditions		
Fatigue	9 (<0.1)	20 (0.1)
Injection site erythema	0	8 (<0.1)
Injection site macule	0	6 (<0.1)
Injection site pain	1 (<0.1)	4 (<0.1)
Investigations		
Blood pressure increased	6 (<0.1)	10 (<0.1)
Blood pressure systolic increased	7 (<0.1)	7 (<0.1)
Infections and infestations		
Covid-19	7 (<0.1)	0

An AE is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages were based on the number of safety set participants. All AEs were coded using MedDRA Version 23.0. Data-cutoff date: March 26, 2021.

Table S17. Summary Unsolicited AEs Up to 28 Days After Any Injection by SARS-CoV-2 Baseline Status

Unsolicited TEAEs n (%)	SARS-CoV-2 Negative		SARS-CoV-2 Positive		SARS-CoV-2 Missing	
	Placebo N=14741	mRNA-1273 N=14750	Placebo N=337	mRNA-1273 N=347	Placebo N=84	mRNA-1273 N=87
Regardless of relationship to study vaccination						
All	4233 (28.7)	4652 (31.5)	92 (27.3)	77 (22.2)	13 (15.5)	23 (26.4)
Serious	101 (0.7)	96 (0.7)	3 (0.9)	1 (0.3)	0	1 (1.1)
Fatal	2 (<0.1)	2 (<0.1)	0	0	0	0
Medically-attended	1902 (12.9)	1782 (12.1)	35 (10.4)	25 (7.2)	3 (3.6)	12 (13.8)
Leading to discontinuation from study vaccine	84 (0.6)	54 (0.4)	8 (2.4)	6 (1.7)	0	1 (1.1)
Leading to discontinuation from study	6 (<0.1)	9 (<0.1)	0	0	0	0
Severe	225 (1.5)	256 (1.7)	7 (2.1)	1 (0.3)	1 (1.2)	1 (1.1)
Related to study vaccination						
All	1201 (8.1)	2032 (13.8)	30 (8.9)	30 (8.6)	5 (6.0)	5 (5.7)
Serious	3 (<0.1)	8 (<0.1)	0	0	0	0
Fatal	0	0	0	0	0	0
Medically-attended	90 (0.6)	197 (1.3)	5 (1.5)	1 (0.3)	0	0
Leading to discontinuation from study vaccine	14 (<0.1)	20 (0.1)	0	0	0	0
Leading to discontinuation from study	0	1 (<0.1)	0	0	0	0
Severe	30 (0.2)	83 (0.6)	1 (0.3)	0	0	0

Treatment-emergent adverse event (TEAE) is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on safety set. Missing data: *n=45 (19.1%), n=60 (20.8%); n=105 (20.1%) and †n=8 (3.4%), n=11 (3.8%) and 19 (3.6%). Data-cutoff date: March 26, 2021.

Table S18. Summary of Unsolicited AEs by Severe Covid-19 Risk Up to 28 Days After Any Injection, Safety Set

n (%)	Not at Risk		At Risk	
	Placebo N=11705	mRNA-1273 N=11736	Placebo N=3457	mRNA-1273 N=3448
Regardless of relationship to study vaccination				
All	3265 (27.9)	3564 (30.4)	1073 (31.0)	1188 (34.5)
Serious	55 (0.5)	62 (0.5)	49 (1.4)	36 (1.0)
Fatal	2 (<0.1)	2 (<0.1)	0	0
Medically-attended	1424 (12.2)	1325 (11.3)	516 (14.9)	494 (14.3)
Leading to discontinuation from study vaccine	65 (0.6)	47 (0.4)	27 (0.8)	14 (0.4)
Leading to discontinuation from study	4 (<0.1)	8 (<0.1)	2 (<0.1)	1 (<0.1)
Severe	148 (1.3)	199 (1.7)	85 (2.5)	59 (1.7)
Related to study vaccination				
All	909 (7.8)	1545 (13.2)	327 (9.5)	522 (15.1)
Serious	1 (<0.1)	6 (<0.1)	2 (<0.1)	2 (<0.1)
Fatal	0	0	0	0
Medically-attended	74 (0.6)	137 (1.2)	21 (0.6)	61 (1.8)
Leading to discontinuation from study vaccine	11 (<0.1)	15 (0.1)	3 (<0.1)	5 (0.1)
Leading to discontinuation from study	0	1 (<0.1)	0	0
Severe	17 (0.1)	64 (0.5)	14 (0.4)	19 (0.6)

A treatment-emergent adverse event (TEAE) defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on the number of participants in safety set. At risk includes those ≥65 years and those <65 years who were considered at increased risk for severe Covid-19 illness having at least 1 of the following CDC-defined risk factors at screening: chronic lung disease (eg, emphysema and chronic bronchitis, idiopathic pulmonary fibrosis, and cystic fibrosis) or moderate to severe asthma, significant cardiac disease (eg, heart failure, coronary artery disease, congenital heart disease, cardiomyopathies, and pulmonary hypertension), severe obesity (body mass index ≥ 40 kg/m2), diabetes (Type 1, Type 2 or gestational), liver disease, Human Immunodeficiency Virus (HIV) infection. Not at risk includes those <65 years without risk factors. Data-cutoff date: March 26, 2021.

Table S19. Summary Unsolicited AEs Overall and Age Groups After Any Injection During Overall Study, Safety Set

	Overall Safety Set		≥18-<65 years		≥65 years	
n (%)	Placebo N=15162	mRNA-1273 N=15184	Placebo N=11411	mRNA-1273 N=11415	Placebo N=3751	mRNA-1273 N=3769
Regardless of relationship to study vaccination						
All	6513 (43.0)	6310 (41.6)	4909 (43.0)	4639 (40.6)	1604 (42.8)	1671 (44.3)
Serious	292 (1.9)	268 (1.8)	168 (1.5)	150 (1.3)	124 (3.3)	118 (3.1)
Fatal	16 (0.1)	17* (0.1)	10 (<0.1)	8 (<0.1)	6 (0.2)	9* (0.2)
Medically-attended	4131 (27.2)	3468 (22.8)	3089 (27.1)	2457 (21.5)	1042 (27.8)	1011 (26.8)
Leading to discontinuation from study vaccine*	109 (0.7)	74 (0.5)	82 (0.7)	59 (0.5)	27 (0.7)	15 (0.4)
Leading to discontinuation from study†	23 (0.2)	26 (0.2)	15 (0.1)	15 (0.1)	8 (0.2)	11 (0.3)
Severe	486 (3.2)	461 (3.0)	319 (2.8)	304 (2.7)	167 (4.5)	157 (4.2)
Related to study vaccination						
All	1288 (8.5)	2107 (13.9)	986 (8.6)	1610 (14.1)	302 (8.1)	497 (13.2)
Serious	4 (<0.1)	12 (<0.1)	2 (<0.1)	9 (<0.1)	2 (<0.1)	3 (<0.1)
Fatal	0	0	0	0	0	0
Medically-attended	109 (0.7)	213 (1.4)	89 (0.8)	172 (1.5)	20 (0.5)	41 (1.1)
Leading to discontinuation from study vaccine*	15 (<0.1)	20 (0.1)	8 (<0.1)	17 (0.1)	7 (0.2)	3 (<0.1)
Leading to discontinuation from study†	0	1 (<0.1)	0	1 (<0.1)	0	0
Severe	34 (0.2)	88 (0.6)	23 (0.2)	62 (0.5)	11 (0.3)	26 (0.7)

A treatment-emergent adverse event (TEAE) is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. *One participant had an AE in the blinded phase and ended in death in the unblinded phase, and thus is included in the fatal category for AEs. Percentages are based on the number of safety subjects. Data-cutoff date: March 26, 2021.

Table S20. Serious AEs Reported by Preferred Term in Any Treatment Group, Overall Safety Set

System Organ Class Preferred Term n (%)	Placebo (N=15162)	mRNA-1273 N=15184	Rate ratio (95% CI)
Number of participants reporting serious AEs	292 (1.9)	268 (1.8)	
Number of serious AEs	439	401	
Infections and infestations	77 (0.5)	48 (0.3)	
Pneumonia	11 (<0.1)	9 (<0.1)	0.82 (0.35, 1.92)
Appendicitis	5 (<0.1)	4 (<0.1)	
Sepsis	3 (<0.1)	4 (<0.1)	
Cellulitis	0	3 (<0.1)	
Bronchitis	0	2 (<0.1)	
Covid-19	40 (0.3)	2 (<0.1)	0.05 (0.01, 0.19)
Peritonitis	0	2 (<0.1)	
Postoperative abscess	0	2 (<0.1)	
Urosepsis	0	2 (<0.1)	
Abscess limb	0	1 (<0.1)	
Appendicitis perforated	1 (<0.1)	1 (<0.1)	
Clostridium difficile infection	0	1 (<0.1)	
Diabetic foot infection	0	1 (<0.1)	
Diverticulitis	3 (<0.1)	1 (<0.1)	
Gastroenteritis viral	0	1 (<0.1)	
Giardiasis	0	1 (<0.1)	
Hepatitis A	0	1 (<0.1)	
Liver abscess	0	1 (<0.1)	
Lung abscess	0	1 (<0.1)	
Pneumonia mycoplasmal	0	1 (<0.1)	
Pneumonia staphylococcal	0	1 (<0.1)	
Post procedural infection	0	1 (<0.1)	
Postoperative wound infection	0	1 (<0.1)	
Pyelonephritis acute	1 (<0.1)	1 (<0.1)	
Salpingitis	0	1 (<0.1)	
Septic shock	3 (<0.1)	1 (<0.1)	
Spinal cord abscess	0	1 (<0.1)	
Toxic shock syndrome	0	1 (<0.1)	
Upper respiratory tract infection	0	1 (<0.1)	
Urinary tract infection	5 (<0.1)	1 (<0.1)	
Viral infection	0	1 (<0.1)	
Viral pharyngitis	0	1 (<0.1)	
Wound infection	0	1 (<0.1)	
Covid-19 pneumonia	8 (<0.1)	0	
Clostridium difficile colitis	1 (<0.1)	0	
Coccidioidomycosis	1 (<0.1)	0	
Enterococcal bacteraemia	1 (<0.1)	0	
Localised infection	1 (<0.1)	0	
Meningitis aseptic	1 (<0.1)	0	
Osteomyelitis	1 (<0.1)	0	
Perirectal abscess	1 (<0.1)	0	
Pharyngitis streptococcal	1 (<0.1)	0	
Pneumonia bacterial	1 (<0.1)	0	
Pneumonia klebsiella	1 (<0.1)	0	
Pyelonephritis	2 (<0.1)	0	
Streptococcal sepsis	1 (<0.1)	0	
Tooth abscess	1 (<0.1)	0	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)	24 (0.2)	27 (0.2)	
Prostate cancer	4 (<0.1)	5 (<0.1)	
Hepatocellular carcinoma	0	2 (<0.1)	
B-cell small lymphocytic lymphoma	0	1 (<0.1)	

Benign lung neoplasm	0	1 (<0.1)	
Cancer pain	0	1 (<0.1)	
Clear cell renal cell carcinoma	1 (<0.1)	1 (<0.1)	
Colorectal cancer	0	1 (<0.1)	
Gastric cancer	0	1 (<0.1)	
Gastrointestinal stromal tumour	0	1 (<0.1)	
Invasive lobular breast carcinoma	0	1 (<0.1)	
Liposarcoma	0	1 (<0.1)	
Malignant melanoma	0	1 (<0.1)	
Meningioma	0	1 (<0.1)	
Metastases to bone	0	1 (<0.1)	
Metastases to lung	0	1 (<0.1)	
Metastatic neoplasm	0	1 (<0.1)	
Non-Hodgkin's lymphoma	0	1 (<0.1)	
Oesophageal carcinoma	0	1 (<0.1)	
Papillary thyroid cancer	1 (<0.1)	1 (<0.1)	
Pelvic neoplasm	0	1 (<0.1)	
Plasma cell myeloma	0	1 (<0.1)	
Renal cell carcinoma	1 (<0.1)	1 (<0.1)	
Splenic marginal zone lymphoma	0	1 (<0.1)	
Throat cancer	0	1 (<0.1)	
Thymoma malignant	0	1 (<0.1)	
Thyroid cancer metastatic	0	1 (<0.1)	
Adenocarcinoma gastric	1 (<0.1)	0	
Breast cancer stage I	1 (<0.1)	0	
Colon cancer stage III	1 (<0.1)	0	
Endometrial cancer	3 (<0.1)	0	
Intraductal proliferative breast lesion	3 (<0.1)	0	
Invasive ductal breast carcinoma	1 (<0.1)	0	
Leiomyosarcoma metastatic	1 (<0.1)	0	
Lung adenocarcinoma	1 (<0.1)	0	
Non-small cell lung cancer	1 (<0.1)	0	
Pancreatic carcinoma stage IV	1 (<0.1)	0	
Prostate cancer metastatic	1 (<0.1)	0	
Thyroid cancer	1 (<0.1)	0	
Uterine leiomyoma	1 (<0.1)	0	
Blood and lymphatic system disorders	7 (<0.1)	3 (<0.1)	
Anaemia	2 (<0.1)	2 (<0.1)	
Blood loss anaemia	1 (<0.1)	1 (<0.1)	
Thrombocytopenia	1 (<0.1)	1 (<0.1)	
Anaemia macrocytic	1 (<0.1)	0	
Iron deficiency anaemia	1 (<0.1)	0	
Thrombocytosis	1 (<0.1)	0	
Immune system disorders	2 (<0.1)	0	
Anaphylactic reaction	1 (<0.1)	0	
Cytokine storm	1 (<0.1)	0	
Endocrine disorders	0	1 (<0.1)	
Basedow's disease	0	1 (<0.1)	
Metabolism and nutrition disorders	15 (<0.1)	17 (0.1)	
Dehydration	4 (<0.1)	4 (<0.1)	
Diabetic ketoacidosis	3 (<0.1)	3 (<0.1)	
Hyponatraemia	1 (<0.1)	3 (<0.1)	
Hypoglycaemia	1 (<0.1)	2 (<0.1)	
Type 2 diabetes mellitus	1 (<0.1)	2 (<0.1)	
Diabetic complication	0	1 (<0.1)	
Failure to thrive	0	1 (<0.1)	
Gout	1 (<0.1)	1 (<0.1)	
Hyperkalaemia	0	1 (<0.1)	
Hypokalaemia	1 (<0.1)	1 (<0.1)	

Obesity	0	1 (<0.1)	
Diabetes mellitus	1 (<0.1)	0	
Diabetes mellitus inadequate control	1 (<0.1)	0	
Hypomagnesaemia	1 (<0.1)	0	
Metabolic acidosis	1 (<0.1)	0	
Psychiatric disorders	13 (<0.1)	13 (<0.1)	
Depression	2 (<0.1)	3 (<0.1)	
Alcohol withdrawal syndrome	1 (<0.1)	2 (<0.1)	
Alcohol abuse	0	1 (<0.1)	
Completed suicide	1 (<0.1)	1 (<0.1)	
Drug abuse	0	1 (<0.1)	
Intentional self-injury	0	1 (<0.1)	
Mental status changes	1 (<0.1)	1 (<0.1)	
Schizoaffective disorder	1 (<0.1)	1 (<0.1)	
Substance-induced mood disorder	0	1 (<0.1)	
Substance-induced psychotic disorder	0	1 (<0.1)	
Suicidal ideation	0	1 (<0.1)	
Suicide attempt	0	1 (<0.1)	
Alcoholism	1 (<0.1)	0	
Anxiety	1 (<0.1)	0	
Anxiety disorder	1 (<0.1)	0	
Confusional state	1 (<0.1)	0	
Depression suicidal	1 (<0.1)	0	
Major depression	2 (<0.1)	0	
Mania	1 (<0.1)	0	
Schizophrenia	1 (<0.1)	0	
Nervous system disorders	27 (0.2)	31 (0.2)	
Cerebrovascular accident	4 (<0.1)	6 (<0.1)	
Syncope	7 (<0.1)	5 (<0.1)	0.71 (0.24, 2.13)
Seizure	1 (<0.1)	3 (<0.1)	
Subarachnoid haemorrhage	0	3 (<0.1)	
Embolic stroke	0	2 (<0.1)	
Transient ischaemic attack	2 (<0.1)	2 (<0.1)	
Aphasia	0	1 (<0.1)	
Autonomic nervous system imbalance	0	1 (<0.1)	
Carotid artery stenosis	0	1 (<0.1)	
Carotid artery thrombosis	0	1 (<0.1)	
Cauda equina syndrome	0	1 (<0.1)	
Cervical radiculopathy	0	1 (<0.1)	
Dizziness	1 (<0.1)	1 (<0.1)	
Facial paralysis	0	1 (<0.1)	
Hemiparesis	0	1 (<0.1)	
Lumbar radiculopathy	0	1 (<0.1)	
Multiple sclerosis	1 (<0.1)	1 (<0.1)	
Optic neuritis	0	1 (<0.1)	
Spinal cord compression	0	1 (<0.1)	
Amyotrophic lateral sclerosis	1 (<0.1)	0	
Arachnoid cyst	1 (<0.1)	0	
Basal ganglia haemorrhage	1 (<0.1)	0	
Encephalopathy	2 (<0.1)	0	
Hydrocephalus	1 (<0.1)	0	
Ischaemic stroke	1 (<0.1)	0	
Loss of consciousness	1 (<0.1)	0	
Migraine	1 (<0.1)	0	
Nerve compression	1 (<0.1)	0	
Paraesthesia	1 (<0.1)	0	
Speech disorder	1 (<0.1)	0	
Eye disorders	1 (<0.1)	0	
Retinal detachment	1 (<0.1)	0	
Retinal tear	1 (<0.1)	0	

Cardiac disorders	43 (0.3)	36 (0.2)	
Myocardial infarction	9 (<0.1)	7 (<0.1)	0.78 (0.30, 2.01)
Atrial fibrillation	10 (<0.1)	6 (<0.1)	0.60 (0.23, 1.59)
Cardiac failure congestive	3 (<0.1)	4 (<0.1)	
Acute coronary syndrome	0	3 (<0.1)	
Acute myocardial infarction	6 (<0.1)	3 (<0.1)	
Coronary artery disease	3 (<0.1)	3 (<0.1)	
Atrial flutter	2 (<0.1)	2 (<0.1)	
Cardio-respiratory arrest	1 (<0.1)	2 (<0.1)	
Pericarditis*	2 (<0.1)	2 (<0.1)	
Acute left ventricular failure	2 (<0.1)	1 (<0.1)	
Angina unstable	0	1 (<0.1)	
Bradycardia	0	1 (<0.1)	
Cardiac arrest	0	1 (<0.1)	
Cardiac failure	2 (<0.1)	1 (<0.1)	
Cardiac failure acute	1 (<0.1)	1 (<0.1)	
Coronary artery occlusion	0	1 (<0.1)	
Pericardial effusion	1 (<0.1)	1 (<0.1)	
Stress cardiomyopathy	0	1 (<0.1)	
Supraventricular tachycardia	0	1 (<0.1)	
Ventricular extrasystoles	0	1 (<0.1)	
Angina pectoris	1 (<0.1)	0	
Arrhythmia	1 (<0.1)	0	
Atrioventricular block complete	1 (<0.1)	0	
Atrioventricular block second degree	1 (<0.1)	0	
Paroxysmal arrhythmia	1 (<0.1)	0	
Sinus tachycardia	2 (<0.1)	0	
Vascular disorders	15 (<0.1)	15 (<0.1)	
Deep vein thrombosis	1 (<0.1)	4 (<0.1)	
Haematoma	0	2 (<0.1)	
Hypertension	2 (<0.1)	2 (<0.1)	
Hypertensive urgency	1 (<0.1)	2 (<0.1)	
Aortic aneurysm	1 (<0.1)	1 (<0.1)	
Arteriosclerosis	0	1 (<0.1)	
Axillary vein thrombosis	0	1 (<0.1)	
Embolism venous	0	1 (<0.1)	
Hypotension	2 (<0.1)	1 (<0.1)	
Polyarteritis nodosa	0	1 (<0.1)	
Venous thrombosis limb	0	1 (<0.1)	
Aortic stenosis	1 (<0.1)	0	
Arterial haemorrhage	1 (<0.1)	0	
Fibromuscular dysplasia	1 (<0.1)	0	
Hypertensive emergency	2 (<0.1)	0	
Peripheral artery aneurysm	1 (<0.1)	0	
Peripheral artery occlusion	1 (<0.1)	0	
Thrombophlebitis superficial	1 (<0.1)	0	
Respiratory, thoracic and mediastinal disorders	35 (0.2)	25 (0.2)	
Acute respiratory failure	10 (<0.1)	7 (<0.1)	0.70 (0.28, 1.77)
Pulmonary embolism	7 (<0.1)	6 (<0.1)	0.86 (0.30, 2.43)
Dyspnoea	0	5 (<0.1)	
Pleural effusion	2 (<0.1)	2 (<0.1)	
Respiratory failure	1 (<0.1)	2 (<0.1)	
Atelectasis	0	1 (<0.1)	
Chronic obstructive pulmonary disease	8 (<0.1)	1 (<0.1)	0.12 (0.02, 0.77)
Emphysema	1 (<0.1)	1 (<0.1)	
Pneumothorax	2 (<0.1)	1 (<0.1)	
Pulmonary mass	0	1 (<0.1)	
Acute respiratory distress syndrome	1 (<0.1)	0	
Asthma	1 (<0.1)	0	
Epistaxis	1 (<0.1)	0	

Hypoxia	3 (<0.1)	0	
Laryngeal oedema	1 (<0.1)	0	
Organising pneumonia	1 (<0.1)	0	
Pleuritic pain	1 (<0.1)	0	
Pneumonia aspiration	1 (<0.1)	0	
Pulmonary fibrosis	1 (<0.1)	0	
Pulmonary infarction	1 (<0.1)	0	
Gastrointestinal disorders	25 (0.2)	36 (0.2)	
Colitis	4 (<0.1)	3 (<0.1)	
Gastrointestinal haemorrhage	2 (<0.1)	3 (<0.1)	
Nausea	3 (<0.1)	3 (<0.1)	
Small intestinal obstruction	3 (<0.1)	3 (<0.1)	
Abdominal pain	2 (<0.1)	2 (<0.1)	
Abdominal pain upper	0	2 (<0.1)	
Diarrhoea	1 (<0.1)	2 (<0.1)	
Duodenal ulcer perforation	0	2 (<0.1)	
Hiatus hernia	1 (<0.1)	2 (<0.1)	
Intestinal obstruction	0	2 (<0.1)	
Vomiting	2 (<0.1)	2 (<0.1)	
Crohn's disease	0	1 (<0.1)	
Diverticular perforation	0	1 (<0.1)	
Duodenal ulcer	0	1 (<0.1)	
Gastritis	2 (<0.1)	1 (<0.1)	
Gastrooesophageal reflux disease	0	1 (<0.1)	
Inguinal hernia	0	1 (<0.1)	
Intra-abdominal fluid collection	0	1 (<0.1)	
Large intestine perforation	0	1 (<0.1)	
Oesophageal rupture	0	1 (<0.1)	
Oesophageal spasm	0	1 (<0.1)	
Pancreatitis	2 (<0.1)	1 (<0.1)	
Pancreatitis acute	0	1 (<0.1)	
Rectal prolapse	0	1 (<0.1)	
Retroperitoneal haemorrhage	0	1 (<0.1)	
Abdominal hernia	1 (<0.1)	0	
Abdominal pain lower	2 (<0.1)	0	
Duodenal ulcer haemorrhage	1 (<0.1)	0	
Gastric perforation	1 (<0.1)	0	
Gastric ulcer haemorrhage	1 (<0.1)	0	
Tooth socket haemorrhage	1 (<0.1)	0	
Hepatobiliary disorders	5 (<0.1)	6 (<0.1)	
Cholecystitis	3 (<0.1)	3 (<0.1)	
Bile duct stone	0	2 (<0.1)	
Cholelithiasis	0	1 (<0.1)	
Biliary dyskinesia	1 (<0.1)	0	
Cholecystitis acute	1 (<0.1)	0	
Skin and subcutaneous tissue disorders	2 (<0.1)	3 (<0.1)	
Alopecia areata	0	1 (<0.1)	
Angioedema	1 (<0.1)	1 (<0.1)	
Rash	0	1 (<0.1)	
Rash vesicular	0	1 (<0.1)	
Dermatitis bullous	1 (<0.1)	0	
Musculoskeletal and connective tissue disorders	28 (0.2)	24 (0.2)	
Osteoarthritis	12 (<0.1)	8 (<0.1)	0.67 (0.28, 1.58)
Intervertebral disc protrusion	2 (<0.1)	3 (<0.1)	
Back pain	0	2 (<0.1)	
Spinal stenosis	2 (<0.1)	2 (<0.1)	
Flank pain	1 (<0.1)	1 (<0.1)	
Fracture nonunion	0	1 (<0.1)	
Muscular weakness	1 (<0.1)	1 (<0.1)	
Musculoskeletal chest pain	1 (<0.1)	1 (<0.1)	

Neck pain	0	1 (<0.1)	
Rheumatoid arthritis	0	1 (<0.1)	
Spinal osteoarthritis	3 (<0.1)	1 (<0.1)	
Spondylolisthesis	0	1 (<0.1)	
Vertebral foraminal stenosis	0	1 (<0.1)	
Arthritis	1 (<0.1)	0	
Cervical spinal stenosis	1 (<0.1)	0	
Joint stiffness	1 (<0.1)	0	
Osteonecrosis	1 (<0.1)	0	
Polymyalgia rheumatica	1 (<0.1)	0	
Rhabdomyolysis	1 (<0.1)	0	
Renal and urinary disorders	11 (<0.1)	10 (<0.1)	
Acute kidney injury	6 (<0.1)	5 (<0.1)	
Nephrolithiasis	1 (<0.1)	5 (<0.1)	
Chronic kidney disease	2 (<0.1)	1 (<0.1)	
Renal impairment	1 (<0.1)	0	
Urinary retention	1 (<0.1)	0	
Pregnancy, puerperium and perinatal conditions	2 (<0.1)	1 (<0.1)	
Abortion spontaneous	1 (<0.1)	1 (<0.1)	
Ectopic pregnancy	1 (<0.1)	0	
Reproductive system and breast disorders	6 (<0.1)	6 (<0.1)	
Pelvic pain	0	2 (<0.1)	
Benign prostatic hyperplasia	1 (<0.1)	1 (<0.1)	
Dysfunctional uterine bleeding	0	1 (<0.1)	
Ovarian cyst	2 (<0.1)	1 (<0.1)	
Uterine haemorrhage	0	1 (<0.1)	
Breast pain	1 (<0.1)	0	
Endometrial hyperplasia	1 (<0.1)	0	
Pelvic prolapse	1 (<0.1)	0	
Congenital, familial and genetic disorders	1 (<0.1)	0	
Talipes	1 (<0.1)	0	
General disorders and administration site conditions	12 (<0.1)	15 (<0.1)	
Death	2 (<0.1)	4 (<0.1)	
Non-cardiac chest pain	2 (<0.1)	3 (<0.1)	
Chest pain	2 (<0.1)	2 (<0.1)	
Swelling face	1 (<0.1)	2 (<0.1)	
Asthenia	0	1 (<0.1)	
Drug withdrawal syndrome	0	1 (<0.1)	
Generalised oedema	0	1 (<0.1)	
Multiple organ dysfunction syndrome	0	1 (<0.1)	
Oedema peripheral	0	1 (<0.1)	
Feeling hot	1 (<0.1)	0	
Incarcerated hernia	2 (<0.1)	0	
Pyrexia	1 (<0.1)	0	
Systemic inflammatory response syndrome	2 (<0.1)	0	
Investigations	1 (<0.1)	3 (<0.1)	
Hepatic enzyme increased	0	2 (<0.1)	
Heart rate irregular	0	1 (<0.1)	
Transaminases increased	1 (<0.1)	0	
Injury, poisoning and procedural complications	29 (0.2)	27 (0.2)	
Hip fracture	3 (<0.1)	3 (<0.1)	
Cervical vertebral fracture	0	2 (<0.1)	
Craniocerebral injury	0	2 (<0.1)	
Fall	5 (<0.1)	2 (<0.1)	
Road traffic accident	1 (<0.1)	2 (<0.1)	
Subdural haematoma	0	2 (<0.1)	
Back injury	0	1 (<0.1)	
Concussion	0	1 (<0.1)	

Facial bones fracture	0	1 (<0.1)	
Femoral neck fracture	0	1 (<0.1)	
Femur fracture	2 (<0.1)	1 (<0.1)	
Gastrointestinal procedural complication	0	1 (<0.1)	
Head injury	0	1 (<0.1)	
Humerus fracture	0	1 (<0.1)	
Incarcerated incisional hernia	0	1 (<0.1)	
Incision site pain	0	1 (<0.1)	
Joint injury	1 (<0.1)	1 (<0.1)	
Overdose	0	1 (<0.1)	
Post procedural haemorrhage	1 (<0.1)	1 (<0.1)	
Procedural haemorrhage	1 (<0.1)	1 (<0.1)	
Rib fracture	3 (<0.1)	1 (<0.1)	
Skin laceration	1 (<0.1)	1 (<0.1)	
Superficial injury of eye	0	1 (<0.1)	
Tendon rupture	1 (<0.1)	1 (<0.1)	
Traumatic liver injury	0	1 (<0.1)	
Upper limb fracture	0	1 (<0.1)	
Wound dehiscence	0	1 (<0.1)	
Wrist fracture	0	1 (<0.1)	
Ankle fracture	1 (<0.1)	0	
Cartilage injury	1 (<0.1)	0	
Gun shot wound	1 (<0.1)	0	
Immunisation anxiety related reaction	1 (<0.1)	0	
Pelvic fracture	1 (<0.1)	0	
Post procedural fever	1 (<0.1)	0	
Post procedural haematoma	1 (<0.1)	0	
Post-traumatic pain	1 (<0.1)	0	
Sternal fracture	1 (<0.1)	0	
Thoracic vertebral fracture	1 (<0.1)	0	
Tracheal haemorrhage	1 (<0.1)	0	
Traumatic haemothorax	2 (<0.1)	0	
Social circumstances	1 (<0.1)	0	
Sexual abuse	1 (<0.1)	0	
Product issues	1 (<0.1)	0	
Lead dislodgement	1 (<0.1)	0	

AE is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on the number of participants in the safety set. All AEs were coded using MedDRA Version 23.0. *Onset post-dose 2 at 68 days (moderate pericarditis and grade 4 pericardial effusion) and at 73 days (grade 4 pericarditis) in mRNA-1273 participants. Data-cutoff date: March 26, 2021.

Table S21. Serious and Severe Treatment-related AEs after Any Injection in Overall and Age Groups Safety Set

Adverse events n (%)	Overall		≥18-<65 yrs		≥65 yrs	
	Placebo	mRNA-1273	Placebo	mRNA-1273	Placebo	mRNA-1273
	N=15162	N=15184	N=11411	N=11415	N=3751	N=3769
Serious AEs (study observation period)						
Incidence of unsolicited AEs	4 (<0.1)	12 (<0.1)	2 (<0.1)	9 (<0.1)	2 (<0.1)	3 (<0.1)
B-cell small lymphocytic lymphoma	0	1 (<0.1)	-	-	0	1 (<0.1)
Basedow's disease	0	1 (<0.1)	-	-	0	1 (<0.1)
Hypomagnesaemia	1 (<0.1)	0	-	-	1 (<0.1)	0
Autonomic nervous system imbalance	0	1 (<0.1)	0	1 (<0.1)	-	-
Cerebrovascular accident	0	1 (<0.1)	0	1 (<0.1)	-	-
Multiple sclerosis	0	1 (<0.1)	0	1 (<0.1)	-	-
Paraesthesia	1 (<0.1)	0	1 (<0.1)	0	-	-
Pericardial effusion	0	1 (<0.1)	0	1 (<0.1)	-	-
Pericarditis	0	1 (<0.1)*	0	1 (<0.1)	-	-
Acute myocardial infarction	1 (<0.1)	0	-	-	1 (<0.1)	0
Atrial fibrillation	1 (<0.1)	0	-	-	1 (<0.1)	0
Pleural effusion	0	1 (<0.1)	0	1 (<0.1)		
Organising pneumonia	1 (<0.1)	0	-	-	1 (<0.1)	0
Respiratory failure	1 (<0.1)	0	-	-	1 (<0.1)	0
Nausea	0	1 (<0.1)	-	-	0	1 (<0.1)
Vomiting	0	1 (<0.1)	-	-	0	1 (<0.1)
Alopecia areata	0	1 (<0.1)	0	1 (<0.1)	-	-
Angioedema	0	1 (<0.1)	0	1 (<0.1)	-	-
Rheumatoid arthritis	0	1 (<0.1)	0	1 (<0.1)	-	-
Polymyalgia rheumatica	1 (<0.1)	0	-	-	1 (<0.1)	0
Acute kidney injury	1 (<0.1)	0	-	-	1 (<0.1)	0
Swelling face	1 (<0.1)	2 (<0.1)	1 (<0.1)	2 (<0.1)	-	-
Feeling hot	1 (<0.1)	0	1 (<0.1)	0	-	-
Immunisation anxiety-related reaction	1 (<0.1)	0	1 (<0.1)	0	-	-
Procedural haemorrhage	1 (<0.1)	0	1 (<0.1)	0	-	-
Severe AEs (≤28 days after any injection)						
Incidence of unsolicited severe AEs	31 (0.2)	83 (0.5)	20 (0.2)	59 (0.5)	11 (0.3)	24 (0.6)
Lymph node pain	0	1 (<0.1)	0	1 (<0.1)	-	-
Lymphadenopathy	0	1 (<0.1)	0	1 (<0.1)	-	-
Type IV hypersensitivity reaction	0	1 (<0.1)	-	-	0	1 (<0.1)
Headache	7 (<0.1)	7 (<0.1)	6 (<0.1)	6 (<0.1)	1 (<0.1)	1 (<0.1)
Migraine	0	2 (<0.1)	0	2 (<0.1)	-	-
Dizziness	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	-	-
Migraine with aura	0	1 (<0.1)	-	-	-	-
Movement disorder	0	1 (<0.1)	0	1 (<0.1)	0	1 (<0.1)
Syncope	0	1 (<0.1)	0	1 (<0.1)	-	-
Vertigo	0	1 (<0.1)	0	1 (<0.1)	-	-
Hypertension	9 (<0.1)	6 (<0.1)	1 (<0.1)	3 (<0.1)	8 (0.2)	3 (<0.1)
Tachypnoea	0	1 (<0.1)	0	1 (<0.1)	-	-
Nausea	0	2 (<0.1)	0	1 (<0.1)	0	1 (<0.1)
Dyspepsia	0	1 (<0.1)	0	1 (<0.1)	-	-
Dermatitis	0	1 (<0.1)	-	-	0	1 (<0.1)
Pruritus	0	1 (<0.1)	0	1 (<0.1)	-	-
Rash	0	1 (<0.1)	0	1 (<0.1)	-	-
Rash macular	0	1 (<0.1)	-	-	0	1 (<0.1)
Urticaria	0	1 (<0.1)	0	1 (<0.1)	-	-
Myalgia	2 (<0.1)	8 (<0.1)	2 (<0.1)	6 (<0.1)	0	2 (<0.1)
Arthralgia	5 (<0.1)	3 (<0.1)	5 (<0.1)	3 (<0.1)	-	-
Muscle spasms	0	2 (<0.1)	0	1 (<0.1)	0	1 (<0.1)
Pain in extremity	0	2 (<0.1)	0	1 (<0.1)	0	1 (<0.1)
Neck pain	0	1 (<0.1)	0	1 (<0.1)	-	-
Temporomandibular joint syndrome	0	1 (<0.1)	0	1 (<0.1)	-	-
Back pain	1 (<0.1)	0	1 (<0.1)	0	-	-
Polymyalgia rheumatica	1 (<0.1)	0	-	-	1 (<0.1)	0
Fatigue	6 (<0.1)	16 (0.1)	4 (<0.1)	13 (0.1)	2 (<0.1)	3 (<0.1)
Injection site erythema	0	8 (<0.1)	0	5 (<0.1)	0	3 (<0.1)

Injection site macule	0	6 (<0.1)	0	3 (<0.1)	0	3 (<0.1)
Injection site pain	1 (<0.1)	3 (<0.1)	1 (<0.1)	3 (<0.1)	-	-
Injection site swelling	0	3 (<0.1)	0	2 (<0.1)	0	1 (<0.1)
Chills	0	2 (<0.1)	0	2 (<0.1)	-	-
Injection site lymphadenopathy	1 (<0.1)	2 (<0.1)	1 (<0.1)	2 (<0.1)	-	-
Injection site urticaria	0	2 (<0.1)	-	-	0	2 (<0.1)
Injection site induration	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	-	-
Injection site rash	0	1 (<0.1)	0	1 (<0.1)	-	-
Malaise	0	1 (<0.1)	0	1 (<0.1)	-	-
Pyrexia	0	1 (<0.1)	-	-	0	1 (<0.1)
Swelling face	0	1 (<0.1)	0	1 (<0.1)	-	-
Asthenia	1 (<0.1)	0	1 (<0.1)	0	-	-
Blood pressure increased	1 (<0.1)	3 (<0.1)	1 (<0.1)	2 (<0.1)	0	1 (<0.1)
Blood pressure diastolic increased	0	1 (<0.1)	-	-	0	1 (<0.1)
Blood pressure systolic increased	0	1 (<0.1)	0	1 (<0.1)		

Treatment-emergent adverse event (TEAE) is defined as any event not present before exposure to study vaccination or any event already present that worsens in intensity or frequency after exposure. Percentages are based on the number of participants in the safety subjects. The 95% CI was calculated using the Miettinen and Nurminen method. *Occurred 28 days post-dose 2.
MedDRA version 23.0. Data-cutoff date: March 26, 2021.

Table S22. Unsolicited Adverse Events of Hypersensitivity, Overall Safety Set

Preferred term n (%)	Overall		≥18 and <65 Years		≥65 years	
	Placebo N=15162	mRNA-1273 N=15184	Placebo N=11411	mRNA-1273 N=11415	Placebo N=3751	mRNA-1273 N=3769
Participants reporting hypersensitivity	278 (1.8)	336 (2.2)	217 (1.9)	248 (2.2)	61 (1.6)	88 (2.3)
Allergic cough	0	2 (<0.1)	0	2 (<0.1)	-	-
Allergic sinusitis	2 (<0.1)	2 (<0.1)	2 (<0.1)	2 (<0.1)	-	-
Anaphylactic reaction	2 (<0.1)	2 (<0.1)	2 (<0.1)	2 (<0.1)	-	-
Angioedema	3 (<0.1)	3 (<0.1)	2 (<0.1)	3 (<0.1)	1 (<0.1)	0
Bronchospasm	1 (<0.1)	3 (<0.1)	1 (<0.1)	1 (<0.1)	0	2 (<0.1)
Conjunctivitis allergic	2 (<0.1)	2 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)
Dermatitis	14 (<0.1)	10 (<0.1)	11 (<0.1)	7 (<0.1)	3 (<0.1)	3 (<0.1)
Dermatitis allergic	5 (<0.1)	3 (<0.1)	5 (<0.1)	3 (<0.1)	-	-
Dermatitis atopic	9 (<0.1)	6 (<0.1)	9 (<0.1)	3 (<0.1)	0	3 (<0.1)
Dermatitis bullous	2 (<0.1)	0	1 (<0.1)	0	1 (<0.1)	0
Dermatitis contact	41 (0.3)	34 (0.2)	28 (0.2)	26 (0.2)	13 (0.3)	8 (0.2)
Drug hypersensitivity	8 (<0.1)	12 (<0.1)	6 (<0.1)	8 (<0.1)	2 (<0.1)	4 (0.1)
Eczema	11 (<0.1)	18 (0.1)	8 (<0.1)	18 (0.2)	3 (<0.1)	0
Eczema nummular	1 (<0.1)	3 (<0.1)	0	2 (<0.1)	1 (<0.1)	1 (<0.1)
Exfoliative rash	0	1 (<0.1)	0	1 (<0.1)	-	-
Eye swelling	5 (<0.1)	2 (<0.1)	4 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)
Hand dermatitis	1 (<0.1)	2 (<0.1)	1 (<0.1)	2 (<0.1)	-	-
Hypersensitivity	9 (<0.1)	9 (<0.1)	7 (<0.1)	5 (<0.1)	2 (<0.1)	4 (0.1)
Idiopathic urticaria	1 (<0.1)	0	1 (<0.1)	0	-	-
Incision site rash	0	1 (<0.1)	0	1 (<0.1)	0	6 (0.2)
Injection related reaction	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	-	-
Injection site rash	1 (<0.1)	25 (0.2)	1 (<0.1)	19 (0.2)	-	-
Injection site urticaria	1 (<0.1)	38 (0.3)	0	27 (0.2)	1 (<0.1)	11 (0.3)
Laryngeal oedema	1 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)	-	-
Lip oedema	0	1 (<0.1)	0	1 (<0.1)	-	-
Lip swelling	2 (<0.1)	6 (<0.1)	1 (<0.1)	5 (<0.1)	1 (<0.1)	1 (<0.1)
Oropharyngeal blistering	0	1 (<0.1)	-	-	0	1 (<0.1)
Palatal oedema	1 (<0.1)	0	1 (<0.1)	0	-	-
Perioral dermatitis	3 (<0.1)	1 (<0.1)	3 (<0.1)	1 (<0.1)	-	-
Periorbital oedema	1 (<0.1)	1 (<0.1)	0	1 (<0.1)	1 (<0.1)	0
Periorbital swelling	3 (<0.1)	0	2 (<0.1)	0	1 (<0.1)	0
Pharyngeal swelling	0	1 (<0.1)	-	-	0	1 (<0.1)
Rash	47 (0.3)	44 (0.3)	42 (0.4)	32 (0.3)	5 (0.1)	12 (0.3)
Rash erythematous	4 (<0.1)	3 (<0.1)	3 (<0.1)	3 (<0.1)	1 (<0.1)	0
Rash follicular	1 (<0.1)	0	1 (<0.1)	0	-	-
Rash macular	6 (<0.1)	8 (<0.1)	2 (<0.1)	3 (<0.1)	4 (0.1)	5 (0.1)
Rash maculo-papular	4 (<0.1)	9 (<0.1)	4 (<0.1)	7 (<0.1)	0	2 (<0.1)
Rash pruritic	11 (<0.1)	6 (<0.1)	10 (<0.1)	4 (<0.1)	1 (<0.1)	2 (<0.1)
Rash pustular	0	1 (<0.1)	0	1 (<0.1)	-	-
Rash vesicular	1 (<0.1)	2 (<0.1)	1 (<0.1)	2 (<0.1)	-	-
Rhinitis allergic	26 (0.2)	21 (0.1)	18 (0.2)	15 (0.1)	8 (0.2)	6 (0.2)
Serum sickness	1 (<0.1)	0	1 (<0.1)	0	-	-
Swelling face	4 (<0.1)	6 (<0.1)	3 (<0.1)	6 (<0.1)	1 (<0.1)	0
Swelling of eyelid	1 (<0.1)	4 (<0.1)	1 (<0.1)	3 (<0.1)	0	1 (<0.1)
Swollen tongue	1 (<0.1)	2 (<0.1)	0	1 (<0.1)	1 (<0.1)	1 (<0.1)
Type IV hypersensitivity reaction	0	1 (<0.1)	-	-	0	1 (<0.1)
Urticaria	46 (0.3)	55 (0.4)	37 (0.3)	40 (0.4)	9 (0.2)	15 (0.4)
Urticaria papular	5 (<0.1)	3 (<0.1)	4 (<0.1)	3 (<0.1)	1 (<0.1)	0
Vaccination site rash	0	2 (<0.1)	0	2 (<0.1)	-	-

Percentages are based on the number of safety subjects.MedDRA version 23.0. Hypersensitivity is identified through selected SMQ. Data-cutoff date: March 26, 2021.

Table S23. Incidence of Dermal Filler Reaction Post-Vaccination by Preferred Term by Age Group, Safety Set

Preferred term n (%)	Overall		≥18 and <65 Years		≥65 years	
	Placebo	mRNA-1273	Placebo	mRNA-1273	Placebo	mRNA-1273
	(N=15162)	(N=15184)	(N=11411)	(N=11415)	(N=3751	(N=3769)
Participants reporting dermal filler reaction	14 (<0.1)	20 (0.1)	9 (<0.1)	17 (0.1)	5 (0.1)	3 (<0.1)
Eye swelling	5 (<0.1)	2 (<0.1)	4 (<0.1)	1 (<0.1)	1 (<0.1)	1 (<0.1)
Lip oedema	0	1 (<0.1)	0	1 (<0.1)	-	-
Lip swelling	2 (<0.1)	6 (<0.1)	1 (<0.1)	5 (<0.1)	1 (<0.1)	1 (<0.1)
Periorbital oedema	1 (<0.1)	1 (<0.1)	0	1 (<0.1)	1 (<0.1)	0
Periorbital swelling	3 (<0.1)	0	2 (<0.1)	0	1 (<0.1)	0
Swelling face	4 (<0.1)	6 (<0.1)	3 (<0.1)	6 (<0.1)	1 (<0.1)	0)
Swelling of eyelid	1 (<0.1)	4 (<0.1)	1 (<0.1)	3 (<0.1)	0	1 (<0.1)

Percentages are based on the number of safety participants. .MedDRA version 23.0.
Data-cutoff date March 26, 2021.

Table S24. Bell's Palsy in Overall Safety Set and By Age Group

Adverse events n (%)	Placebo	mRNA-1273	Rate ratio	Total
Overall	**N=15162**	**N=15184**		**N=30346**
Facial paralysis	3 (<0.1)	8 (<0.1)	2.66 (0.77, 9.25)	11 (<0.1)
≥18-<65 yrs	**N=11411**	**N=11415**		**N=22826**
Facial paralysis	3 (<0.1)	5 (<0.1)*	-	8 (<0.1)
≥65 yrs	**N=3751**	**N=3769**		**N=7520**
Facial paralysis	0	3 (<0.1)†	-	3 (<0.1)
Serious				
Facial paralysis	0	1 (<0.1)		1 (<0.1)

Treatment-emergent adverse event (TEAE) defined as any event not present before exposure to study vaccination or any event already present that worsened in intensity or frequency after exposure. Percentages are based on the number of safety set participants. The rate ratio was calculated as the ratio of the percentage of participants who reported the event in mRNA-1273 divided by that in placebo; 95% CI was calculated using the Miettinen and Nurminen method.*1 AE severe (grade 3): male, 56 yrs, white, SARS-CoV-2 negative, not treatment-related, recovering/resolving, concomitant meds, follow-up time 2nd dose=179 days. †2 AE severe grade 3: 1) female, 67 yrs, white, SAE criteria, not treatment-related, recovered/resolved, concomitant meds, follow-up time 2nd dose=172 days and 2) male, 73 yrs, white, not treatment-related, recovered/resolved, concomitant meds, follow-up time 2nd dose=172 days. MedDRA version 23.0. Data-cutoff date: March 26, 2021.

Table S25. Thromboembolic Events in the Overall Safety Set and by Age Group

	Overall			≥18-65 yrs		≥65 yrs	
Preferred term n (%)	Placebo N=15162	mRNA-1273 N=15184	Rate Ratio (95% CI)	Placebo N=11411	mRNA-1273 N=11415	Placebo N=3751	mRNA-1273 N=3769
Participants Reporting Embolic and Thrombotic Events*	43 (0.3)	47 (0.3)	-	28 (0.2)	26 (0.2)	15 (0.4)	21 (0.6)
Acute myocardial infarction	6 (<0.1)	4 (<0.1)	-	2 (<0.1)	2 (<0.1)	4 (0.1)	2 (<0.1)
Arterial occlusive disease	0	1 (<0.1)	-	-	-	0	1 (<0.1)
Axillary vein thrombosis	0	1 (<0.1)	-	-	-	0	1 (<0.1)
Blindness transient	0	1 (<0.1)	-	0	1 (<0.1)	-	-
Carotid artery thrombosis	0	1 (<0.1)	-	-	-	0	1 (<0.1)
Cerebrovascular accident	4 (<0.1)	7 (<0.1)	1.75 (0.6-5.6)	2 (<0.1)	4 (<0.1)	2 (<0.1)	3 (<0.1)
Coronary artery occlusion	0	2 (<0.1)	-	-	-	0	2 (<0.1)
Deep vein thrombosis	6 (<0.1)	8 (<0.1)	1.33 (0.5-3.7)	4 (<0.1)	4 (<0.1)	2 (<0.1)	4 (0.1)
Deep vein thrombosis postoperative	0	1 (<0.1)	-	0	1 (<0.1)	-	-
Embolic stroke	0	2 (<0.1)	-	-	-	0	2 (<0.1)
Embolism venous	0	1 (<0.1)	-	0	1 (<0.1)	-	-
Hemiparesis	0	1 (<0.1)	-	0	1 (<0.1)	-	-
Ischaemic stroke	1 (<0.1)	0	-	-	-	1 (<0.1)	0
Myocardial infarction	9 (<0.1)	7 (<0.1)	0.78 (0.3-2.0)	6 (<0.1)	4 (<0.1)	3 (<0.1)	3 (<0.1)
Peripheral arterial occlusive disease	0	1 (<0.1)		0	1 (<0.1)	0	1 (<0.1)
Peripheral artery occlusion	1 (<0.1)	1 (<0.1)		1 (<0.1)	0	2 (<0.1)	2 (<0.1)
Pulmonary embolism	7 (<0.1)	6 (<0.1)	0.86 (0.3-2.4)	5 (<0.1)	4 (<0.1)	2 (<0.1)	2 (<0.1)
Pulmonary infarction	1 (<0.1)	0	-	1 (<0.1)	0	-	-
Retinal infarction	1 (<0.1)	0	-	0	1 (<0.1)	1 (<0.1)	0
Stress cardiomyopathy	0	1 (<0.1)	-	-	-	0	1 (<0.1)
Thrombophlebitis	0	1 (<0.1)	-	0	1 (<0.1)	-	-
Thrombophlebitis superficial	4 (<0.1)	2 (<0.1)	-	4 (<0.1)	2 (<0.1)	-	-
Transient ischaemic attack	4 (<0.1)	3 (<0.1)	-	4 (<0.1)	1 (<0.1)	0	2 (<0.1)
Venous thrombosis limb	0	1 (<0.1)	-	0	1 (<0.1)		
Vertebral artery occlusion	1 (<0.1)	0	-	-	-	1 (<0.1)	0

Percentages are based on the number of participants in the safety set. The rate ratio was calculated as the ratio of percentage of participants reporting the event in mRNA-1273 divided by that in placebo in the overall group. The 95% CI was calculated using the Miettinen and Nurminen method. *Embolic and Thrombotic Events were identified through selected Standardized MedDRA Query. Data-cutoff date March 26, 2021.

Table S26. Death summary in Blinded Phase

	Placebo N=15162	mRNA-1273 N=15184	Total N=30346
Number of Deaths Total, n (%)	16 (0.1)	16 (0.1)	32 (0.1)
Cause of death, n			
Symptomatic Covid-19	1	-	1
Covid-19//SARS-CoV-2	2	1†	3
Intra-abdominal perforation	1	--	1
Stage 4 pancreatic cancer	1	-	1
Complication of amyotrophic lateral sclerosis	1	-	1
Myocardial infarction	4	1	5
Cardiopulmonary arrest	1	2	3
Unknown death (details unknown, pending autopsy, unknown origin/cause)	2	3	5
Severe systemic inflammatory syndrome in the setting of CLL	1	-	1
Committed suicide	1	1	2
Seizure	1		1
End stage congestive heart failure	-	1	1
Cardiac arrest	-	1	1
Provisional diagnosis, sudden fatal event, likely myocardial infarction	-	1	1
Worsening metastatic hepatocellular carcinoma	-	1	1
Right lower lobe pulmonary nodule concerning for primary lung malignancy	-	1	1
GI bleed and multisystem organ failure and acute hypoxic respiratory failure	-	1	1
Head trauma	-	1	1
Death suspected due to coronary artery disease, probably to complications of diabetes mellitus	-	1	1

Percentages based on participants in the safety set. †Participant with a medical history of liver disease and human immunodeficiency virus, had a death attributed to Covid-19 that occurred 119 days post-dose 1; however, did not receive a second dose and was not included in the analysis of the secondary endpoint for prevention of Covid-19 death as only deaths due to Covid-19 14 days after 2nd dose were analyzed. Data-cutoff date March 26, 2021.

Table S27. Vaccine Efficacy for Primary and All Secondary Endpoints

Endpoint	Placebo N=14164	mRNA-1273 N=14287
Covid-19*, Adjudication Assessments Starting 14 Days After Second Injection		
Events (n)	744	55
Vaccine Efficacy (95% CI)*†		93.2 (91.0-94.8)
p-value‡		<.0001‡
Covid-19* Starting 14 Days After Second Injection		
Events (n)	751	55
Vaccine Efficacy (95% CI)†		93.2 (91.1-94.9)
Severe Covid-19* Adjudication Assessments Starting 14 Days After Second Injection		
Events (n)	106	2
Vaccine Efficacy (95% CI)†		98.2 (92.8-99.6)
Severe Covid-19* Starting 14 Days After Second Injection		
Events (n)	118	3
Vaccine Efficacy (95% CI)†		97.6 (92.4-99.2)
Secondary Definition of Covid-19* Starting 14 Days After Second Injection		
Events (n)	807	58
Vaccine Efficacy (95% CI)†		93.4 (91.4-94.9)
Covid-19* Based on Adjudication Committee Assessments Starting 14 Days After First Injection		
Events (n)	769	56
Vaccine Efficacy (95% CI)†		93.3 (91.1-94.9)
Covid-19* Starting 14 Days After First Injection		
Events (n)	782	58
Vaccine Efficacy (95% CI)†		93.1 (91.0-94.7)
Covid-19* Based on Adjudication Committee Assessments Starting 14 Days After Second Injection Regardless of Prior SARS-CoV-2 Infection		
Events, n/N¶	754/15166	58/15180
Vaccine Efficacy (95% CI)†		92.8 (90.6-94.5)
Covid-19* Starting 14 Days After Second Injection Regardless of Prior SARS-CoV-2 Infection		
Events, n/N¶	762/15166	58/15180
Vaccine Efficacy (95% CI)†		92.9 (90.7-94.6)
Death Caused by Covid-19 Starting 14 Days After Second Injection		
Events (n)	3	0
Vaccine Efficacy (95% CI)†		100.0 (NE-100.0)
SARS-CoV-2 Infection Regardless of Symptomatology and Severity Starting 14 Days After Second Injection		
Events (n)§	1339	280
Vaccine Efficacy (95% CI)†		82.0 (79.5-84.2)
Asymptomatic SARS-CoV-2 Infection Starting 14 Days After Second Injection		
Events (n)§	498	214
Vaccine Efficacy (95% CI)†		63.0 (56.6-68.5)

*With censoring rules for efficacy analyses. Covid-19 case is based on eligible symptoms and positive RT-PCR within 14 days. If participant had positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participant was censored at the date with positive RT-PCR or Elecsys. †Vaccine efficacy (VE), defined as 1 - hazard ratio (mRNA-1273 vs. placebo), and 95% CI were estimated using a stratified Cox proportional hazard model with Efron's method of tie handling and with the treatment group as a covariate, adjusting for stratification factor. For asymptomatic SARS-CoV-2 infection, VE and 95% CI were estimated using Fine and Gray's sub-distribution hazard model with disease cases as competing events and with the treatment group as a covariate, adjusting for stratification factor. ‡1-sided p-value from stratified Cox proportional hazard model to test the null hypothesis VE ≤0.3. §Includes participant decision visit data. ¶n and N are based on the number of participants in the Full Analysis Set. Data-cutoff date March 26, 2021.

Table S28. Covid Case Summary Per-Protocol and mITT Definitions*

	Per-protocol population			Modified intent-to-treat population		
	Placebo N=14164	**mRNA-1273 N=14287**	**Estimated VE (95% CI)**	**Placebo N=14745**	**mRNA-1273 N=14746**	**Estimated VE (95% CI)**
Symptomatic infections, 14 days post-injection two, n (%)						
Covid-19 adjudicated cases	744 (5.3)	55 (0.4)	93.2 (91.0-94.8)	751 (5.1)	58 (0.4)	92.8 (90.6-94.5)
Covid-19 cases (adjudicated and any)	751 (5.3)	55 (0.4)	93.2 (91.1-94.9)	759 (5.1)	58 (0.4)	92.9 (90.7-94.6)
Secondary definition of Covid-19	807 (5.7)	58 (0.4)	93.4 (91.4-94.9)	816 (5.5)	61 (0.4)	93.1 (91.0-94.7)
Severe Covid-19 cases	106 (0.7)	2 (0)	97.6 (92.4-99.2)	107 (0.7)	2 (0)	98.2 (92.8-99.6)
Asymptomatic infection†	498 (3.5)	214 (1.5)	63.0 (56.6-68.5)	500 (3.4)	217 (1.5)	62.3 (55.7-67.8)
Asymptomatic infections (number of events) after randomization, n	**Placebo N=14164**	**mRNA-1273 N=14287**		**Placebo N=14745**	**mRNA-1273 N=14746**	
Asymptomatic infections total, n (%)	567 (4.0)‡	246 (1.7)	-	583 (4.0)‡	253 (1.7)	-
Infections detected at day 29	69	32	-	75	33	-
RT-PCR only	35	12	-	36	13	
Seroconversion only	26	17	-	27	17	
Both RT-PCR and seroconversion	8	3	-	12	3	-
Infections detected at day 57 (seroconversion)	31	13	-	34	14	-
Infections detected at day 209 (seroconversion)	2	0	-	2	0	-
Infections detected at PDV	463	201	-	470	206	-
RT-PCR only	157	153	-	158	156	-
Seroconversion only	191	41	-	193	43	-
Both RT-PCR and seroconversion	115	7	-	119	7	-

PDV=participant decision visit. Reverse transcriptase polymerase chain reaction (RT-PCR) test and Elecsys binding antibody (bAb) against SARS-CoV-2 nucleocapsid assay (seroconversion) results at post-baseline scheduled visits are considered in the case definition. *Only includes cases defined in the blinded phase and does not include cases defined in the open-label phase. Includes cases that occurred at the participant decision visit (PDV) before or on the efficacy data cutoff date of March 26, 2021. Asymptomatic SARS-CoV-2 infection (PP and mITT sets) was defined as absence of symptoms (no Covid-19 symptom for either primary efficacy Covid-19 end point, or secondary definition of Covid-19) and infections as detected by at least either seroconversion (bAb specific to SARS-CoV-2 nucleocapsid) at scheduled visits (months 1, 2, 7, 13 and 25 if applicable in Part A, participant decision visit and etc. in Part B) when blood samples for immunogenicity were collected, or by RT-PCR at scheduled visits such as pre-dose 2 at day 29 in Part A. Both RT-PCR test and bAb against SARS-CoV-2 nucleocapsid were considered, and the date of documented asymptomatic infection was the earlier date of seroconversion due to infection, or positive RT-PCR at scheduled visits, with the absence of symptoms. Participants who had a symptomatic infection (Covid-19 or secondary definition of Covid-19) prior to an asymptomatic infection were censored at the time of symptomatic infection for the analysis of asymptomatic infection. †For the primary analysis, documented asymptomatic infection was counted starting 14 days after the 2nd injection, which required seroconversion at months 2 (day 57, 209 or PDV). As disease cases (Covid-19 or secondary definition of Covid-19) are competing events for asymptomatic SARS-CoV-2 infections, competing risk method was used to estimate the vaccine efficacy of mRNA-1273, specifically, Fine and Gray's (FG) sub-distribution hazard model was used. ‡2 participants with data detected at unscheduled visit. Data cut-off date: March 26, 2021.

Table S29. Vaccine Efficacy to Prevent Covid-19* in Subgroups Assessed

Subgroup	n Events/N† Placebo N=14164	n Events/N† mRNA-1273 N=14287	Vaccine Efficacy % (95% CI)
Overall	744/14164	55 /14287	93.2 (91.0-94.8)
Age Years			
≥18 and <65	644/10569	46/10661	93.4 (91.1-95.1)
≥65	100/3595	9/3626	91.5 (83.2-.95.7)
≥65 and <75	81/2898	9/2990	89.7 (79.6-94.9)
≥75	19/697	0/636	100.0 (NE-100.0)
Sex			
Male	378/7494	30/7439	92.5 (89.1-94.8)
Female	366/6670	25/6848	93.8 (90.7-95.9)
Age and Health Risk for Severe Covid-19‡			
≥18 and <65 years and not at risk	501/8428	35/8464	93.5 (90.9-95.4)
≥18 and <65 years and at risk	143/ 2141	11/2197	93.0 (87.0-96.2)
≥65 years	100/3595	9/3626	91.5 (83.2-95.7)
At Risk for Severe Covid-19			
Yes	177/3212	16/3283	91.7 (86.2-95.0)
No	567/10952	39/11004	93.6 (91.2-95.4)
Race and Ethnicity			
Non-Hispanic White§	488/8998	39/9123	92.6 (89.8-94.7)
Communities of Color	256/5141	16/5139	94.2 (90.3-96.5)
Race			
White	631/11273	48/11391	93.0 (90.6-94.7)
Black or African American	41/1352	4/1,391	91.1 (75.2-96.8)
Asian	29/700	1/628	96.6 (74.2-99.5)
American Indian or Alaska Native	5/113	0/109	100.0 (NE-100.0)
Native Hawaiian or Other Pacific Islander	0/31	0/36	NE (NE-NE)
Other	19 /274	2 / 295	95.8 (68.6-99.4)
Multiple	8/304	1/282	88.1 (4.6-98.5)
Not Reported/Unknown	11/127	0/146	100.0 (NE-100.0)
Ethnicity			
Hispanic or Latino	177/2,787	10/2831	94.8 (90.2-97.3)
Not Hispanic or Latino	563/11,249	45/11,322	92.6 (90.0-94.5)
Not reported	2/76	0/99	100.0 (NE-100.0)
Unknown	2/52	0/35	100.0 (NE-100.0)
Comorbidities			
Chronic Lung Disease	30/692	4/675	87.2 (63.8-95.5)
Significant Cardiac Disease	30/696	4/726	88.0 (65.9-95.8)
Severe Obesity (>40 kg/m2)	75/980	7/1009	91.4 (81.4-96.0)
Diabetes	72/1363	3/1,402	96.2 (87.9-98.8)
Liver Disease	5/90	1/100	81.0 (-64.8-97.8)
HIV	4/82	0/85	100.0 (NE-100)
Occupational risk			
No Risk	72/2480	4/2541	94.8 (85.8-98.1)
Healthcare workers	209/3261	13/361	94.4 (90.3-96.8)
Emergency response	25/273	2/287	93.0 (70.6-98.4)
Retail and restaurant operations	58/875	5/870	92.0 (80.0-96.8)
Manufacturing and Production Operations	21/390	2/390	90.9 (61.0-97.9)
Warehouse Shipping and Fulfillment Centers	13/158	2/174	86.1 (38.4-96.9)
Transportation and Delivery Services	22/428	2/428	91.3 (62.8-97.9)
Border Protection and Military Personnel	3/66	0/64	100.0 (NE-100)
Personal Care and In-Home Services	29/413	2/417	93.5 (72.8-98.5)

Hospitality and Tourism Workers	10/200	3/214	74.1 (5.6-92.9)
Pastoral, Social or Public Health Workers	36/485	1/506	97.6 (82.2-99.7)
Educators and Students	77/1478	7/1476	91.3 (81.2-96.0)
Other	237/4506	23/4586	91.3 (81.2-96.0)

*With the censoring rules for efficacy analyses. Covid-19 case is based on eligible symptoms and positive RT-PCR within14 days. If a participant had positive RT-PCR at pre-dose 2 visit (Day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the subject is censored at the date with positive RT-PCR or Elecsys. Vaccine efficacy, defined as 1 - hazard ratio (mRNA-1273 vs. placebo), and 95% CI were estimated using a stratified Cox proportional hazard model with Efron's method of tie handling and with the treatment group as a covariate, adjusting for stratification factor if applicable. †Based on the number of participants assessed in each subgroup. †Age and health risk for severe Covid-19 are derived from age and risk factor collected on case report form (CRF). ‡White is defined as White and non-Hispanic, and Communities of Color includes all the others whose race or ethnicity is not unknown, unreported or missing. Data-cutoff date: March 26, 2021.

Table S30. Cases of Covid-19 and SARS-CoV-2 Infection Post-randomization by Time Periods, Per-Protocol Set

	Covid-19* adjudicated cases		Covid-19* cases		Severe Covid-19 adjudicated cases		SARS-CoV-2 infection regardless of symptomology/severity	
	Placebo	mRNA-1273	Placebo	mRNA-1273	Placebo	mRNA-1273	Placebo	mRNA-1273
Cases	**N=14164**	**N=14287**	**N=14164**	**N=14287**	**N=14164**	**N=14287**	**N=14164**	**N=14287**
n (%)	769 (5.4)	56 (0.4)	782 (5.5)	58 (0.4)	107 (0.8)	2 (<0.1)	1434 (10.1)	313 (2.2)
Events (n)								
Randomization up to 14 days after first injection	0	0	0	0	0	0	0	0
≥14 up to 21 days after first injection	0	0	0	0	0	0	1	0
≥21 days after first injection up to second injection	1	0	3	0	0	0	3	0
Second injection up to 7 days after second injection	11	1	12	3	0	0	78	33
≥7 up to 14 days after second injection	13	0	16	0	1	0	13	0
≥14 up to 28 days after second injection	49	4	48	4	7	0	63	9
≥28 up to 56 days after second injection	178	15	181	14	25	0	217	28
≥56 up to 84 days after second injection	228	12	229	13	33	2	290	28
≥84 up to 112 days after second injection	206	16	207	16	28	0	316	58
≥112 days after second injection	83	8	86	8	13	0	453	157

*With censoring rules for efficacy analyses. Covid-19 case was based on eligible symptoms and positive RT-PCR within 14 days. If a participant had positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participant was censored at the date with positive RT-PCR or Elecsys. Data-cutoff date: March 26, 2021.

Table S31. Covid-19 Symptoms and Severity in Adjudicated Covid-19 and Severe Covid-19 Cases, Per-protocol Set

	All Covid-19 cases*		Severe Covid-19 cases	
Covid-19 n (%)	Placebo N=744	mRNA-1273 N=55*	Placebo N=106	mRNA-1273 N=2
Respiratory symptom				
Clinical evidence of pneumonia	18 (2.4)	0	16 (15.1)	0
Cough	632 (84.9)	35 (63.6)	100 (94.3)	2 (100)
Difficulty breathing	185 (24.9)	10 (18.2)	49 (46.2)	2 (100)
Radiographical evidence of pneumonia	16 (2.2)	0	14 (13.2)	0
Shortness of breath	275 (37.0)	19 (34.5)	74 (69.8)	1 (50.0)
Systemic symptom				
Body aches	464 (62.4)	24 (43.6)	83 (78.3)	1 (50.0)
Chills	378 (50.8)	17 (30.9)	65 (61.3)	1 (50.0)
Diarrhea	282 (37.9)	16 (29.1)	55 (51.9)	2 (100)
Fatigue	620 (83.3)	39 (70.9)	96 (90.6)	1 (50.0)
Fever†	175 (23.5)	5 (9.1)	45 (42.5)	0
Headache	583 (78.4)	47 (85.5)	92 (86.8)	1 (50.0)
Muscle aches (myalgia)	409 (55.0)	23 (41.8)	76 (71.7)	1 (50.0)
Nasal congestion	591 (79.4)	43 (78.2)	79 (74.5)	2 (100)
Nausea	272 (36.6)	15 (27.3)	49 (46.2)	2 (100)
New loss of smell	445 (59.8)	18 (32.7)	57 (53.8)	0
New loss of taste	416 (55.9)	14 (25.5)	58 (54.7)	0
Runny nose (rhinorrhea)	489 (65.7)	39 (70.9)	72 (67.9)	2 (100)
Sore throat	386 (51.9)	34 (61.8)	52 (49.1)	2 (100)
Vomiting	79 (10.6)	3 (5.5)	23 (21.7)	1 (50.0)
Number of participants with any severe symptom	112 (15.1)	3 (5.5)	103 (97.2)	(100)
Acute renal dysfunction	2 (0.3)	0	2 (1.9)	0
Acute Respiratory Distress Syndrome	2 (0.3)	0	2 (1.9)	0
ECMO	1 (0.1)	0	1 (0.9)	0
High-flow oxygen	6 (0.8)	1 (1.8)	6 (5.7)	1 (50.0)
Mechanical ventilation	2 (0.3)	0	2 (1.9)	0
Non-Invasive ventilation	2 (0.3)	0	2 (1.9)	0
Admission to an intensive care unit due to SARS-CoV-2	4 (0.5)	0	5 (4.7)	0
Hospitalization due to SARS-CoV-2	27 (3.6)	1 (1.8)	22 (20.8)	1 (50.0)
Heart Rate ≥125 beats per minute	5 (0.7)	0	5 (4.7)	0
Hepatic dysfunction	0	0	0	0
Neurologic dysfunction	2 (0.3)	0	2 (1.9)	0
Oxygen saturation ≤93‡	97 (13.0)	3 (5.5)	94 (88.7)	2 (100)
Oxygen saturation SpO2 ≤93% on room air at sea level	98 (13.2)	3 (5.5)	94 (88.7)	2 (100)
PaO2/FIO2 ratio <300 mmHg	1 (0.1)	0	1 (0.9)	0
Respiratory failure	4 (0.5)	1 (1.8)	5 (4.7)	1 (50.0)
Respiratory rate ≥30 per minute	4 (0.5)	0	3 (2.8)	0
Systolic blood pressure <90 mmHg, diastolic blood Pressure <60 mmHg	14 (1.9)	0	9 (8.5)	0
Vasopressors required	0	0	0	0
Deaths	4 (0.5)	0	2 (1.9)	0

* Adjudicated cases with the censoring rules for efficacy analyses. Covid-19 case based on eligible symptoms and positive RT-PCR within 14 days. If a participant had positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participant was censored at the date with positive RT-PCR or Elecsys. All symptoms reported are included, regardless of relationship with the positive RT-PCR test used to define the COVID-19 case. Note symptoms are shown for participants with all cases of 196 Covid-19 and those 30 that were considered severe cases. All symptoms reported are included, regardless of relationship with the positive RT-PCR test used to define the case of Covid-19 in PP set. Participants can be counted in more than one category. †Derived based on temperature collected on case report form (CRF) symptoms. ‡Derived based on oxygen saturation collected on CRF symptom log page. Data-cutoff date: March 26, 2021.

Table S32. Baseline Characteristics of Participants with Covid-19* Based on Adjudicated Cases, Per-protocol Set

Characteristics n (%)	All Covid-19 cases*		Severe Covid-19* cases	
	Placebo N=744	mRNA-1273 N=55	Placebo N=106	mRNA-1273 N=2
Age, years				
Mean (range)	48 (18-87)	49 (24-74)	53 (22-85)	63 (53-72)
18-65	44 (18-64)	45 (24 -64)	47 (22-63)	53 (53-53)
≥65 ys	71 (65-87)	70 (66-74)	71 (65-85)	72 (72-72)
Sex, n (%)				
Male	378 (50.8)	30 (54.5)	50 (47.2)	1 (50.0)
Female	366 (49.2)	25 (45.5)	56 (52.8)	1 (50.0)
Age and Health Risk for Severe Covid-19†				
≥18 and <65 Years and Not at Risk	482 (64.8)	34 (61.8)	43 (40.6)	1 (50.0)
≥18 and <65 Years and at Risk	162 (21.8)	12 (21.8)	33 (31.1)	0
≥65 Years	100 (13.4)	9 (16.4)	30 (28.3)	1 (50.0)
Risk Factor for Severe Covid-19 at Screening‡				
Chronic Lung Disease	30 (4.0)	4 (7.3)	9 (8.5)	1 (50.0)
Significant Cardiac Disease	30 (4.0)	4 (7.3)	9 (8.5)	0
Severe Obesity	75 (10.1)	7 (12.7)	15 (14.2)	0
Diabetes	72 (9.7)	3 (5.5)	22 (20.8)	0
Liver Disease	5 (0.7)	1 (1.8)	1 (0.9)	0
Human Immunodeficiency Virus Infection	4 (0.5)	0	1 (0.9)	0
At Risk for Severe Covid-19 at Screening, n (%)				
Yes	177 (23.8)	16 (29.1)	44 (41.5)	1 (50.0)
One Risk Factor for Severe Covid-19	143 (19.2)	14 (25.5)	32 (30.2)	1 (50.0)
Two or More Risk Factors for Severe Covid-19	34 (4.6)	2 (3.6)	12 (11.3)	0
No	567 (76.2)	39 (70.9)	62 (58.5)	1 (50.0)
Age and Risk for Severe Covid-19, n (%)§				
≥18 and <65 Years and Not at Risk	501 (67.3)	35 (63.6)	46 (43.4)	1 (50.0)
≥18 and <65 Years and at Risk	143 (19.2)	11 (20.0)	30 (28.3)	0
≥65 Years and Not at Risk	66 (8.9)	4 (7.3)	16 (15.1)	0
≥65 Years and at Risk	34 (4.6)	5 (9.1)	14 (13.2)	1 (50.0)
Race, n (%)				
White	631 (84.8)	48 (87.3)	86 (81.1)	2 (100)
Black or African American	41 (5.5)	4 (7.3)	6 (5.7)	0
Asian	29 (3.9)	1 (1.8)	4 (3.8)	0
American Indian or Alaska Native	5 (0.7)	0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0
Multiracial	8 (1.1)	1 (1.8)	3 (2.8)	0
Other	19 (2.6)	1 (1.8)	4 (3.8)	0
Not Reported	5 (0.7)	0	2 (1.9)	0
Unknown	6 (0.8)	0	1 (0.9)	0

Ethnicity, n (%)				
Hispanic or Latino	177 (23.8)	10 (18.2)	21 (19.8)	1 (50.0)
Not Hispanic or Latino	563 (75.7)	45 (81.8)	84 (79.2)	1 (50.0)
Not Reported	2 (0.3)	0	0	0
Unknown	2 (0.3)	0	1 (0.9)	0
Race and Ethnicity Group, n (%)‖				
Minority	220 (29.6)	14 (25.5)	27 (25.5)	1 (50.0)
Non-minority	524 (70.4)	41 (74.5)	79 (74.5)	1 (50.0)
Race and Ethnicity Group, n (%)**				
White	488 (65.6)	39 (70.9)	72 (67.9)	1 (50.0)
Communities of Color	256 (34.4)	16 (29.1)	34 (32.1)	1 (50.0)
Body Mass Index (kg/m^2)				
n	741	55	105	2
Mean (SD)	30.5 (7.0)	31.8 (6.9)	32.0 (7.2)	31.9 (3.1)

*With the censoring rules for efficacy analyses. Covid-19 case based on eligible symptoms and positive RT-PCR within 14 days. If a participant had a positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participants was censored at the date with positive RT-PCR or Elecsys. Percentages are based on the number of participants in per-protocol set with Covid-19 based on adjudication committee assessments starting 14 days after second injection. †Based on stratification factor from IRT, participants <65 years old were categorized as at risk for severe Covid-19 illness if they have at least 1 of the risk factors specified in the study protocol at screening. ‡ Participants could be under one or more categories and are counted once at each category. §Age and health risk for severe Covid-19 were derived from age and risk factors collected on case report forms. ¶Baseline SARS-CoV-2 Status defined as positive if there was immunologic or virologic evidence of prior Covid-19 (positive RT-PCR test or positive Elecsys result at day 1) and negative defined as negative RT-PCR test and negative Elecsys result at day 1. ‖Minority defined as Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, Native Hawaiians, and other Pacific Islanders, and Non-Minority includes all the others whose race or ethnicity is not unknown, unreported or missing. **White defined as White and non-Hispanic, and Communities of Color includes all the others whose race or ethnicity is not unknown, unreported or missing. Data-cutoff date: March 26, 2021.

Table S33. Exploratory Analysis in Participants with One Injection 14 days First Injection, mITT

Covid-19 cases	Placebo N=425	mRNA-1273 N=334
Covid-19*, adjudicated cases n (%)	45 (10.6)	4 (1.2)
Incidence rate per 1000 person-year (95% CI)	471.1 (343.6-630.4)	49.6 (13.5-127.1)
Severe Covid-19 n (%)	6 (1.4)	1 (0.3)
Incidence rate per 1000 person-year (95% CI)	54.4 (19.9-118.4)	12.0 (0.3-67.0)

*With the censoring rules for efficacy analyses. Covid-19 case based on eligible symptoms and positive RT-PCR within 14 days. If a participant had a positive RT-PCR at pre-dose 2 visit (day 29) without eligible symptoms with 14 days, or positive Elecsys at scheduled visits prior to becoming a Covid-19 case, the participant was censored at the date of positive RT-PCR or Elecsys. Vaccine efficacy (VE), defined as 1 - hazard ratio (mRNA-1273 vs. placebo), and 95% CI are estimated using a stratified Cox proportional hazard model with Efron's method of tie handling and with the treatment group as a covariate, adjusting for stratification factor. Person-years defined as the total years from randomization date to the date of Covid-19, the date of earliest positive RT-PCR or Elecsys at scheduled visits, last date of study participation, or efficacy data cutoff date, whichever is earlier. Incidence rate defined as the number of participants with an event divided by the number of subjects at risk and adjusted by person-years (total time at risk) in each treatment group. The 95% CI is calculated using the exact method (Poisson distribution) and adjusted by person-years. Data-cutoff date: March 26, 2021.