

53 Table. Significant associations with risk of breast cancer subtypes (not previously reported for risk of overall breast cancer), full results from five MR approaches.

Protein	Number of SNPs	Luminal A/B-like										Luminal B-like													
		IWW OR (95% CI)		IWW P		IWW FDR-Adjusted P		Median OR (95% CI)		MR-Egger		MR-ESSOR (95% CI)		MR-PRESSO P		MR-PRESSO P		MR-Locus		MR-Locus					
		1.03 (1.02-1.04)	7.09E-08	2.25E-05	1.03 (1.01-1.04)	3.63E-05	1.01 (0.99-1.04)	0.242	1.03 (1.02-1.04)	1.07E-05	46	0.004 (0.002,0.007)	1.02 (1.00-1.04)	0.041	0.751	1.01 (0.98-1.04)	0.288	1.01 (0.98-1.05)	0.48	1.02 (1.00-1.03)	0.019	46			
AC1L2	7	0.95 (0.92-0.98)	0.001	0.036	0.96 (0.92-0.99)	0.021	0.98 (0.89-1.09)	0.75	0.95 (0.93-0.98)	0.009	29	0.26 (0.099-0.19)		0.99 (0.92-1.06)	0.758	0.997	0.99 (0.91-1.08)	0.847	1.03 (0.81-1.31)	0.818	0.99 (0.92-1.06)	0.769	29		
ADAMTS1	4	1.01 (1.01-1.01)	0.002	0.045	NA	NA	NA	NA	NA	NA	15	0.016 (0.013,0.049)		1.00 (0.99-1.01)	0.406	0.751	NA	NA	NA	NA	1.01 (0.99-1.04)	0.566	29		
ADGRF1	10	0.97 (0.94-0.99)	0.002	0.043	0.97 (0.94-0.99)	0.021	0.92 (0.82-1.05)	0.62	0.97 (0.94-0.98)	0.012	26	0.013 (0.012,0.005)		1.00 (0.96-1.06)	0.699	0.997	1.02 (0.95-1.08)	0.621	1.05 (0.92-1.20)	0.476	1.01 (0.98-1.04)	0.769	29		
AMPY3	18	1.01 (1.00-1.02)	0.054	0.38	1.01 (1.00-1.03)	0.081	1.02 (0.99-1.05)	0.111	1.01 (1.00-1.02)	0.05	35	0.016 (0.002,0.033)		0.99 (0.97-1.02)	0.713	0.997	0.99 (0.96-1.03)	0.775	1.01 (0.95-1.07)	0.763	0.99 (0.98-1.01)	0.53	35		
ASB	17	1.01 (1.00-1.02)	0.017	0.029	1.01 (0.99-1.03)	0.417	1.01 (0.98-1.06)	0.101	1.01 (0.99-1.02)	0.022	44	0.002 (0.001,0.002)		1.00 (0.96-1.14)	4.48E-08	8.20E-05	1.01 (0.91-1.14)	0.001	1.01 (0.91-1.14)	0.001	1.01 (0.91-1.14)	0.001	1.01 (0.91-1.14)	9.40E-06	44
C12orf76	10	0.95 (0.91-0.99)	0.003	0.285	0.96 (0.92-1.01)	0.102	0.95 (0.79-1.14)	0.588	0.95 (0.91-0.99)	0.058	37	0.012 (0.028,0.04)		0.83 (0.76-0.90)	7.74E-06	0.005	0.83 (0.76-0.91)	5.49E-05	1.01 (0.73-1.39)	0.959	0.83 (0.78-0.90)	0.002	37		
CAMK1D	6	0.94 (0.91-0.98)	0.002	0.048	0.96 (0.92-1.00)	0.044	1.05 (0.91-1.21)	0.509	0.94 (0.91-0.98)	0.027	19	0.40 (0.073,0.06)		1.00 (0.93-1.08)	0.924	0.997	1.03 (0.94-1.13)	0.543	1.17 (0.85-1.60)	0.339	1.00 (0.94-1.07)	0.433	21		
CASP1	8	1.07 (1.03-1.10)	2.88E-04	0.012	1.02 (1.02-1.11)	0.007	0.99 (0.89-1.10)	0.508	1.07 (1.04-1.10)	0.001	21	0.01 (0.040,0.018)		1.03 (0.96-1.11)	0.504	0.997	1.04 (0.84-1.15)	0.533	1.15 (0.91-1.46)	0.233	1.03 (0.96-1.11)	0.193	21		
CCND1	2	0.86 (0.82-0.92)	4.52E-05	0.003	NA	NA	NA	NA	NA	NA	26	0.003 (0.13,0.008)		0.78 (0.66-0.92)	0.002	0.997	NA	NA	NA	NA	NA	NA	26		
CCND2	1	0.79 (0.71-0.87)	3.69E-06	3.93E-04	NA	NA	NA	NA	NA	NA	11	-0.131 (0.222,0.041)		0.90 (0.72-1.13)	0.356	0.997	NA	NA	NA	NA	NA	NA	11		
CD209	22	1.02 (1.00-1.05)	0.034	0.171	1.03 (1.01-1.05)	0.001	1.02 (0.98-1.06)	0.277	1.02 (1.00-1.05)	0.022	38	0.034 (0.001,0.027)		1.02 (0.99-1.05)	0.131	0.997	1.02 (0.98-1.06)	0.381	1.02 (0.97-1.07)	0.473	1.02 (1.00-1.04)	0.03	38		
CD30C	4	1.01 (0.98-1.04)	0.456	0.928	1.01 (0.97-1.05)	0.626	0.92 (0.83-1.04)	0.377	1.01 (0.98-1.04)	0.482	35	0.002 (0.007,0.003)		0.94 (0.84-1.01)	0.08	0.928	0.93 (0.86-1.01)	0.094	0.91 (0.72-1.16)	0.455	0.94 (0.90-0.99)	0.072	35		
CLC12A	21	1.00 (0.99-1.01)	0.35	0.822	1.00 (0.99-1.02)	0.476	1.00 (0.97-1.02)	0.684	1.00 (1.00-1.01)	0.021	36	0.000 (0.002,0.001)		1.00 (0.98-1.03)	0.809	0.997	1.02 (0.99-1.06)	0.176	1.03 (0.98-1.08)	0.237	1.00 (0.98-1.03)	0.811	36		
CLIC2	11	0.95 (0.93-0.97)	5.29E-05	0.004	0.96 (0.93-0.99)	0.018	0.99 (0.92-1.06)	0.732	0.95 (0.93-0.97)	0.031	30	0.026 (0.042,0.009)		1.00 (0.95-1.05)	0.911	0.997	1.03 (0.96-1.10)	0.475	1.03 (0.87-1.21)	0.759	1.00 (0.95-1.04)	0.898	30		
CST7	12	1.03 (1.01-1.05)	0.001	0.04	1.02 (1.00-1.04)	0.038	1.01 (0.98-1.06)	0.459	1.03 (0.91-1.05)	0.009	44	0.011 (0.001,0.020)		1.02 (0.98-1.05)	0.365	0.997	1.03 (0.97-1.06)	0.422	1.02 (0.94-1.10)	0.614	1.02 (1.00-1.03)	0.041	44		
CTSS	11	1.00 (0.98-1.02)	0.771	0.952	1.01 (0.97-1.03)	0.655	1.01 (0.97-1.05)	0.735	1.01 (0.98-1.01)	0.735	37	-0.002 (0.006,0.002)		0.98 (0.94-1.03)	0.419	0.997	0.97 (0.92-1.03)	0.391	0.97 (0.88-1.06)	0.472	0.98 (0.95-1.01)	0.248	37		
CKC11	6	1.01 (0.99-1.03)	0.468	0.935	1.01 (0.99-1.03)	0.52	0.99 (0.94-1.05)	0.729	1.01 (0.99-1.03)	0.501	27	0.004 (0.003,0.010)		1.08 (1.03-1.12)	4.37E-04	0.101	1.07 (1.02-1.12)	0.005	0.99 (0.90-1.10)	0.906	1.08 (1.04-1.11)	0.009	27		
DMP7	6	0.99 (0.96-1.03)	0.71	0.847	1.00 (0.96-1.04)	0.844	1.01 (0.90-1.14)	0.854	0.99 (0.97-1.02)	0.602	13	0.000 (0.001,0.001)		1.02 (0.96-1.10)	0.553	0.997	1.02 (0.94-1.12)	0.62	1.12 (0.85-1.46)	0.43	1.02 (0.95-1.10)	0.579	13		
EPR4	3	1.02 (1.01-1.04)	5.51E-06	0.001	1.02 (1.00-1.03)	0.009	1.00 (0.98-1.03)	0.764	1.02 (1.01-1.04)	8.41E-05	38	0.004 (0.001,0.010)		0.99 (0.97-1.01)	0.348	0.997	1.00 (0.97-1.02)	0.87	1.01 (0.97-1.05)	0.731	0.99 (0.97-1.01)	0.303	38		
FBP1	10	1.06 (1.03-1.09)	2.91E-04	0.012	1.06 (1.03-1.09)	0.002	1.07 (0.98-1.17)	0.117	1.06 (1.03-1.09)	0.006	27	0.015 (0.000,0.029)		1.04 (0.99-1.09)	0.135	0.997	1.02 (0.95-1.08)	0.626	0.99 (0.87-1.13)	0.59	1.04 (1.01-1.07)	0.043	27		
FAM5D	29	1.03 (1.01-1.05)	4.79E-04	0.016	1.05 (1.03-1.07)	2.84E-06	1.04 (1.00-1.09)	0.058	1.03 (1.01-1.05)	0.002	40	0.004 (0.003,0.011)		0.96 (0.92-1.01)	0.09	0.977	1.03 (0.99-1.08)	0.133	1.05 (0.96-1.15)	0.252	0.96 (0.92-1.01)	0.101	40		
FGFR2A	28	1.01 (1.01-1.02)	0.034	0.259	1.01 (1.01-1.02)	0.037	1.01 (1.00-1.04)	0.025	1.01 (1.00-1.02)	0.016	46	0.000 (0.001,0.000)		0.98 (0.96-1.01)	0.025	0.704	0.98 (0.96-1.01)	0.228	1.01 (0.97-1.06)	0.236	0.98 (0.96-0.99)	0.02	46		
FGF19	2	0.97 (0.91-1.04)	0.412	0.9	NA	NA	NA	NA	NA	NA	16	-0.047 (0.089,0.04)		1.00 (0.98-1.02)	0.899	0.997	1.01 (0.98-1.04)	0.439	1.02 (0.98-1.06)	0.399	1.00 (0.98-1.02)	0.894	55		
FKBP6	34	0.98 (0.97-0.99)	4.33E-05	0.003	0.98 (0.97-0.99)	0.007	0.97 (0.95-1.00)	0.019	0.98 (0.97-0.99)	2.69E-04	55	-0.002 (0.007,0.002)		1.00 (0.98-1.02)	0.899	0.997	1.01 (0.98-1.04)	0.439	1.02 (0.98-1.06)	0.399	1.00 (0.98-1.02)	0.894	55		
FRS3	17	1.01 (0.99-1.03)	0.16	0.52	1.01 (0.99-1.03)	0.13	1.01 (0.97-1.05)	0.12	1.01 (0.99-1.03)	0.13	32	0.002 (0.002,0.002)		1.02 (0.98-1.06)	0.352	0.997	1.04 (0.99-1.09)	0.362	1.06 (0.97-1.15)	0.181	1.02 (0.98-1.06)	0.369	32		
GGP2	4	0.93 (0.89-0.97)	0.002	0.043	0.93 (0.88-0.97)	0.001	1.03 (0.87-1.22)	0.721	0.93 (0.90-0.96)	0.026	22	-0.021 (0.043,0.001)		0.99 (0.90-1.10)	0.92	0.997	1.03 (0.93-1.16)	0.549	1.18 (0.81-1.73)	0.384	0.99 (0.92-1.07)	0.909	22		
GILR1D1	16	0.99 (0.97-1.00)	0.062	0.408	0.98 (0.96-1.00)	0.108	0.97 (0.94-1.01)	0.182	0.99 (0.97-1.01)	0.077	26	-0.006 (0.012,0.000)		1.01 (0.98-1.04)	0.489	0.997	1.01 (0.96-1.05)	0.775	0.98 (0.91-1.06)	0.679	1.01 (0.99-1.03)	0.297	26		
GNS	1	0.86 (0.78-0.84)	0.005	0.045	0.91 (0.86-0.96)	0.008	1.01 (0.85-1.18)	0.004	0.91 (0.86-0.96)	0.008	15	-0.044 (0.085,0.036)		0.93 (0.75-1.15)	0.492	0.997	0.90 (0.75-1.07)	0.88	1.12 (0.81-1.55)	0.147	1.00 (0.94-1.06)	0.939	15		
GPY1	17	0.93 (0.90-0.96)	9.56E-05	0.006	0.95 (0.90-0.99)	0.017	1.00 (0.86-1.29)	0.587	0.93 (0.90-0.96)	0.013	23	0.024 (0.047,0.001)		1.00 (0.92-1.08)	0.945	0.997	1.02 (0.93-1.12)	0.689	1.37 (0.88-2.14)	0.167	1.00 (0.94-1.06)	0.929	23		
GRIA4	2	1.27 (1.17-1.38)	1.66E-08	6.69E-06	NA	NA	NA	NA	NA	NA	97	0.011 (0.001,0.020)		1.06 (0.88-1.28)	0.537	0.997	1.06 (0.93-1.22)	0.621	1.06 (0.93-1.22)	0.621	1.00 (0.94-1.06)	0.929	97		
H2Z	23	1.02 (1.01-1.04)	1.97E-04	0.01	1.02 (1.01-1.04)	0.005	1.02 (0.99-1.05)	0.111	1.02 (1.01-1.04)	0.001	47	0.005 (0.002,0.013)		1.00 (0.97-1.04)	0.804	0.997	0.99 (0.96-1.03)	0.785	1.00 (0.93-1.07)	0.957	1.00 (0.97-1.04)	0.806	47		
HBP1L	10	0.98 (0.92-0.98)	0.002	0.036	0.96 (0.92-0.98)	0.026	1.01 (0.91-1.13)	0.004	0.95 (0.92-0.98)	0.012	30	0.002 (0.005,0.004)		1.02 (0.95-1.12)	0.456	0.997	1.02 (0.94-1.11)	0.556	1.02 (0.97-1.10)	0.9	1.02 (0.96-1.11)	0.448	30		
ICAM1	34	1.00 (0.99-1.01)	0.841	0.974	1.00 (0.98-1.01)	0.851	0.98 (0.96-1.01)	0.196	1.00 (0.99-1.01)	0.843	63	0.005 (0.000,0.010)		0.99 (0.97-1.01)	0.564	0.997	0.99 (0.96-1.02)	0.584	0.97 (0.93-1.01)	0.188	0.99 (0.97-1.01)	0.54	63		
ICAM5	18	0.98 (0.96-1.00)	0.121	0.501	1.00 (0.98-1.03)	0.692	1.03 (0.99-1.07)	0.177	0.98 (0.96-1.00)	0.139	42	-0.012 (0.022,0.003)		1.00 (0.99-1.03)											

MRUCU slope alpha (95% Int)	Luminal & HER2 negative-like											MRUCU slope alpha (95% Int)	HER2 enriched										
	I/W OR (95% CI)	I/W P	I/W FDR Adjusted P	Median OR (95% CI)	Median P	Egger OR (95% CI)	Egger P	MR PRESSO OR (95% CI)	MR PRESSO P	MRUCU clusters	I/W OR (95% CI)		I/W P	I/W FDR Adjusted P	Median OR (95% CI)	Median P	Egger OR (95% CI)	Egger P	MR PRESSO OR (95% CI)	MR PRESSO P			
0.05 (0.02, 0.08)	1.03 (1.01-1.04)	2.95E-04	0.039	1.03 (1.01-1.04)	0.022	1.02 (0.99-1.05)	0.21	1.03 (1.02-1.04)	4.85E-06	46	0.001 (0.002, 0.003)	1.00 (0.96-1.03)	0.92	0.999	1.02 (0.98-1.06)	0.273	1.05 (0.98-1.12)	0.196	1.00 (0.96-1.03)	0.921			
0.002 (0.004, 0.009)	0.94 (0.89-1.01)	0.074	0.442	0.94 (0.88-1.01)	0.115	1.00 (0.80-1.25)	0.992	0.94 (0.89-1.01)	0.124	29	-0.034 (0.065, 0.003)	1.01 (0.92-1.11)	0.856	0.999	0.99 (0.88-1.12)	0.933	0.97 (0.70-1.33)	0.841	1.01 (0.91-1.09)	0.833			
0.004 (0.005, 0.004)	1.25 (0.96-1.71)	0.046	0.406	1.25 (0.96-1.71)	0.046	NA	NA	NA	NA	14	-0.177 (0.346, 0.012)	1.01 (0.92-1.11)	0.856	0.999	1.06 (0.96-1.17)	0.223	0.999	1.06 (0.96-1.17)	0.223				
-0.019 (0.031, -0.007)	0.95 (0.91-0.99)	0.016	0.328	0.95 (0.91-0.99)	0.154	0.96 (0.86-1.08)	0.505	0.95 (0.92-0.99)	0.025	26	-0.002 (0.007, 0.004)	0.90 (0.91-1.05)	0.599	0.999	0.90 (0.91-1.09)	0.848	0.98 (0.79-1.22)	0.848	0.98 (0.91-1.05)	0.611			
0.006 (0.009, 0.021)	1.04 (1.02-1.07)	4.94E-05	0.014	1.04 (1.01-1.07)	0.018	1.06 (1.01-1.12)	0.016	1.04 (1.02-1.06)	2.23E-04	35	-0.017 (0.042, 0.009)	1.02 (0.99-1.06)	0.971	0.999	1.02 (0.97-1.07)	0.484	1.03 (0.94-1.12)	0.524	1.02 (1.00-1.05)	0.089			
-0.012 (0.005, 0.014)	1.05 (1.02-1.09)	0.003	0.029	1.05 (1.02-1.09)	0.029	1.05 (0.99-1.13)	0.149	1.05 (0.99-1.13)	0.005	48	-0.037 (0.002, 0.016)	1.04 (0.99-1.09)	0.622	0.999	1.06 (0.95-1.14)	0.075	1.12 (1.00-1.24)	0.024	1.08 (1.01-1.14)	0.069			
-0.023 (-0.058, 0.012)	0.95 (0.90-1.00)	0.056	0.413	0.96 (0.88-1.04)	0.289	0.94 (0.75-1.18)	0.597	0.95 (0.90-1.00)	0.078	37	-0.008 (0.042, 0.009)	1.00 (0.97-1.15)	0.976	0.999	1.00 (0.96-1.27)	0.161	1.05 (0.87-1.27)	0.582	1.00 (0.97-1.15)	0.977			
0.065 (0.02, 0.128)	0.91 (0.85-0.97)	0.004	0.168	0.91 (0.85-0.97)	0.031	0.97 (0.74-1.27)	0.823	0.91 (0.87-0.95)	0.007	19	-0.017 (0.036, 0.02)	0.99 (0.89-1.11)	0.99	0.999	1.01 (0.88-1.15)	0.924	1.03 (0.65-1.62)	0.914	0.99 (0.94-1.05)	0.815			
-0.006 (0.025, 0.014)	1.04 (0.98-1.11)	0.197	0.628	1.06 (0.97-1.15)	0.182	1.12 (0.91-1.37)	0.281	1.04 (0.99-1.10)	0.157	26	-0.009 (0.088-1.10)	0.90 (0.88-1.10)	0.959	0.999	0.95 (0.82-1.10)	0.745	1.09 (0.78-1.52)	0.626	0.99 (0.89-1.09)	0.79			
-0.016 (0.046, 0.014)	0.94 (0.82-1.08)	0.409	0.672	0.94 (0.82-1.08)	0.409	0.672	0.409	0.94 (0.82-1.08)	0.409	26	0.027 (0.111, 0.062)	0.82 (0.46-1.48)	0.52	0.999	0.82 (0.46-1.48)	0.52	0.999	0.82 (0.46-1.48)	0.52				
-0.012 (0.040, 0.017)	0.82 (0.68-1.00)	0.048	0.406	0.82 (0.68-1.00)	0.048	NA	NA	NA	NA	11	-0.105 (0.142, 0.020)	0.87 (0.62-1.20)	0.39	0.999	0.87 (0.62-1.20)	0.39	0.999	0.87 (0.62-1.20)	0.39				
0.001 (0.002, 0.005)	1.04 (1.01-1.06)	0.001	0.107	1.05 (1.01-1.08)	0.006	1.05 (0.91-1.10)	0.024	1.04 (1.02-1.05)	3.73E-05	38	-0.004 (0.004, 0.002)	1.02 (0.97-1.07)	0.447	0.999	1.01 (0.96-1.07)	0.615	1.08 (0.98-1.18)	0.106	1.02 (0.97-1.07)	0.455			
-0.003 (0.010, 0.004)	1.02 (0.96-1.08)	0.457	0.701	1.02 (0.96-1.08)	0.457	0.701	0.457	1.02 (0.96-1.08)	0.457	35	-0.037 (0.004, 0.013)	1.06 (0.96-1.17)	0.223	0.999	1.06 (0.96-1.17)	0.223	0.999	1.06 (0.96-1.17)	0.223				
0.000 (1.000, 0.000)	1.04 (1.01-1.06)	3.63E-04	0.043	1.04 (1.01-1.06)	0.006	1.02 (0.98-1.07)	0.283	1.04 (1.02-1.06)	0.002	36	0.005 (0.004, 0.013)	1.00 (0.96-1.03)	0.8	0.999	0.99 (0.95-1.03)	0.548	1.00 (0.93-1.07)	0.98	1.00 (0.97-1.02)	0.727			
0.005 (0.007, 0.016)	0.95 (0.90-1.00)	0.038	0.406	0.95 (0.89-1.01)	0.101	0.96 (0.82-1.12)	0.587	0.95 (0.90-1.00)	0.064	30	-0.027 (0.043, 0.012)	1.00 (0.92-1.08)	0.966	0.999	1.00 (0.91-1.11)	0.939	0.94 (0.74-1.19)	0.6	1.00 (0.94-1.06)	0.96			
-0.008 (0.000, 0.022)	1.01 (0.98-1.05)	0.348	0.65	1.03 (0.99-1.07)	0.191	1.05 (0.98-1.12)	0.186	1.01 (0.99-1.04)	0.34	44	0.002 (0.007, 0.003)	1.00 (0.94-1.06)	0.97	0.999	1.03 (0.97-1.10)	0.335	1.17 (1.04-1.31)	0.008	1.00 (0.94-1.06)	0.97			
0.007 (0.004, 0.018)	0.94 (0.91-0.98)	0.005	0.18	0.95 (0.90-1.00)	0.047	0.95 (0.88-1.02)	0.175	0.94 (0.91-0.98)	0.012	37	-0.013 (0.027, 0.001)	0.92 (0.85-1.00)	0.444	0.779	0.93 (0.85-1.03)	0.155	0.97 (0.83-1.14)	0.734	0.92 (0.85-1.00)	0.071			
0.007 (0.003, 0.016)	1.01 (0.98-1.05)	0.545	0.757	1.01 (0.98-1.05)	0.562	0.99 (1.00-1.09)	0.884	1.01 (0.98-1.05)	0.562	27	0.005 (0.010, 0.020)	1.03 (0.97-1.09)	0.318	0.999	1.03 (0.96-1.10)	0.346	1.02 (0.88-1.17)	0.828	1.03 (1.01-1.06)	0.058			
-0.014 (-0.050, 0.022)	0.88 (0.83-0.94)	1.83E-04	0.62	0.89 (0.83-0.94)	0.004	0.94 (0.76-1.17)	0.582	0.88 (0.86-0.93)	0.001	13	-0.006 (0.015, 0.007)	1.00 (0.89-1.12)	0.971	0.999	1.03 (0.96-1.18)	0.647	1.17 (0.77-1.78)	0.453	1.00 (0.89-1.12)	0.972			
0.001 (0.002, 0.001)	0.99 (0.97-1.00)	0.063	0.426	0.99 (0.97-1.00)	0.578	0.99 (0.96-1.02)	0.475	0.98 (0.97-1.00)	0.049	38	-0.001 (0.003, 0.001)	1.02 (0.99-1.05)	0.137	0.999	1.00 (0.96-1.04)	0.843	1.00 (0.96-1.04)	0.206	1.02 (0.99-1.05)	0.12			
-0.001 (-0.002, 0.001)	1.07 (1.03-1.12)	0.001	0.107	1.07 (1.03-1.12)	0.022	1.07 (1.05-1.09)	0.222	1.07 (1.05-1.09)	1.29E-04	27	0.008 (0.004, 0.014)	1.04 (0.99-1.12)	0.212	0.999	1.04 (0.95-1.14)	0.352	1.00 (0.80-1.25)	0.94	1.06 (0.97-1.14)	0.214			
-0.002 (-0.009, 0.004)	1.03 (1.00-1.05)	0.021	0.355	1.03 (1.00-1.05)	0.03	1.03 (0.98-1.08)	0.222	1.03 (1.01-1.04)	0.007	40	0.001 (0.003, 0.005)	0.99 (0.96-1.03)	0.815	0.999	1.00 (0.95-1.05)	0.996	1.02 (0.94-1.11)	0.632	0.99 (0.96-1.03)	0.814			
0.001 (0.001, 0.001)	0.99 (0.97-1.01)	0.234	0.65	0.99 (0.97-1.01)	0.515	0.99 (0.96-1.03)	0.612	0.99 (0.97-1.01)	0.243	46	0.000 (0.001, 0.001)	1.02 (0.98-1.05)	0.134	0.999	1.03 (0.99-1.07)	0.189	1.01 (0.95-1.07)	0.778	1.02 (1.00-1.05)	0.106			
-0.118 (0.210, 0.626)	0.92 (0.80-1.05)	0.213	0.64	0.92 (0.80-1.05)	0.213	0.64	0.213	0.92 (0.80-1.05)	0.213	16	-0.027 (0.066, 0.012)	0.96 (0.77-1.21)	0.757	0.999	0.96 (0.77-1.21)	0.757	0.999	0.96 (0.77-1.21)	0.757				
-0.002 (-0.006, 0.02)	0.98 (0.96-1.00)	0.023	0.36	0.97 (0.95-1.00)	0.04	0.96 (0.92-1.00)	0.049	0.98 (0.96-1.00)	0.03	55	-0.010 (0.024, 0.004)	1.02 (0.99-1.05)	0.224	0.999	1.01 (0.97-1.06)	0.638	0.98 (0.93-1.05)	0.629	1.02 (0.99-1.05)	0.199			
0.002 (0.002, 0.007)	1.02 (0.98-1.03)	0.763	0.899	1.02 (0.98-1.03)	0.763	0.899	0.763	1.02 (0.98-1.03)	0.763	22	0.006 (0.017, 0.005)	1.01 (0.97-1.05)	0.157	0.999	1.01 (0.97-1.05)	0.157	0.999	1.01 (0.97-1.05)	0.157				
0.008 (0.005, 0.02)	0.93 (0.84-1.02)	0.1	0.509	0.93 (0.84-1.02)	0.126	0.93 (0.61-1.42)	0.738	0.93 (0.85-1.01)	0.199	22	0.002 (0.023, 0.009)	1.06 (0.92-1.22)	0.415	0.999	1.02 (0.86-1.20)	0.84	0.99 (0.49-1.49)	0.589	1.06 (0.93-1.21)	0.434			
0.001 (0.02, 0.005)	0.95 (0.92-0.97)	1.03E-04	0.02	0.96 (0.92-0.99)	0.028	0.97 (0.91-1.04)	0.351	0.95 (0.93-0.97)	1.51E-04	26	-0.008 (0.023, 0.006)	0.98 (0.94-1.03)	0.417	0.999	1.00 (0.94-1.07)	0.992	1.01 (0.80-1.13)	0.847	0.98 (0.94-1.02)	0.35			
-0.006 (-0.123, 0.003)	0.78 (0.65-0.94)	0.009	0.213	0.78 (0.65-0.94)	0.009	0.213	0.009	0.78 (0.65-0.94)	0.009	18	-0.067 (0.125-0.011)	0.67 (0.66-1.23)	0.54	0.999	0.67 (0.66-1.23)	0.54	0.999	0.67 (0.66-1.23)	0.54				
-0.011 (0.031, 0.009)	1.00 (0.84-0.96)	0.001	0.107	0.90 (0.81-0.98)	0.021	0.85 (0.58-1.24)	0.391	0.90 (0.84-0.95)	0.021	23	0.007 (0.008, 0.040)	0.97 (0.86-1.09)	0.626	0.999	1.01 (0.88-1.16)	0.865	0.92 (0.45-1.85)	0.806	0.97 (0.87-1.08)	0.631			
0.001 (0.003, 0.005)	1.21 (1.03-1.41)	0.017	0.328	1.21 (1.03-1.41)	0.017	0.328	0.017	1.21 (1.03-1.41)	0.017	38	-0.001 (0.004, 0.003)	1.34 (1.02-1.77)	0.037	0.742	1.34 (1.02-1.77)	0.037	0.742	1.34 (1.02-1.77)	0.037				
0.004 (0.000, 0.007)	1.04 (1.01-1.06)	0.002	0.107	1.04 (1.01-1.06)	0.027	1.03 (0.99-1.08)	0.176	1.04 (1.01-1.06)	0.003	47	0.004 (0.004, 0.012)	0.95 (0.92-0.99)	0.024	0.617	0.97 (0.91-1.03)	0.277	1.03 (0.95-1.11)	0.475	0.95 (0.92-0.99)	0.034			
-0.004 (0.000, 0.007)	0.99 (0.90-1.11)	0.025	0.328	0.99 (0.90-1.11)	0.025	0.328	0.025	0.99 (0.90-1.11)	0.025	39	-0.001 (0.003, 0.005)	1.01 (0.97-1.05)	0.132	0.999	1.01 (0.97-1.05)	0.132	0.999	1.01 (0.97-1.05)	0.132				
0.001 (0.001, 0.003)	1.06 (1.03-1.08)	1.20E-07	2.43E-04	1.05 (1.02-1.08)	3.79E-04	1.04 (1.00-1.08)	0.077	1.06 (1.03-1.08)	7.77E-06	63	-0.005 (0.010, 0.010)	1.03 (0.99-1.07)	0.116	0.999	1.05 (1.00-1.10)	0.448	1.07 (1.00-1.16)	0.057	1.03 (0.99-1.07)	0.126			
0.001 (0.001, 0.003)	0.94 (0.91-0.97)	2.68E-04	0.039	0.95 (0.92-0.99)	0.013	0.96 (0.92-1.04)	0.562	0.94 (0.91-0.97)	0.002	42	0.008 (0.014, 0.002)	0.96 (0.91-1.01)	0.105	0.999	0.94 (0.88-0.99)	0.028	0.90 (0.81-0.99)	0.028	0.96 (0.91-1.01)	0.123			
-0.002 (0.003, 0.007)	1.00 (0.95-1.05)	0.095	0.413	1.00 (0.95-1.05)	0.095	0.413	0.095	1.00 (0.95-1.05)	0.095	29	-0.002 (0.003, 0.005)	1.00 (0.95-1.05)	0.095	0.999	1.00 (0.95-1.05)	0.095	1.00 (0.95-1.05)	0.095	1.00 (0.95-1.05)	0.095			
-0.005 (-0.020, 0.010)	1.03 (0.98-1.08)	0.163	0.591	1.03 (0.98-1.08)	0.163	0.591	0.163	1.03 (0.98-1.08)	0.163	29	0.017 (0.007, 0.04)	0.98 (0.92-1.05)	0.586	0.999	0.97 (0.90-1.06)	0.552	0.97 (0.79-1.19)	0.762	0.98 (0.92-1.05)	0.6			
0.033 (0.028, 0.038)	0.93 (0.89-0.97)	1.21E-05	0.008	0.96 (0.93-0.98)	0.001	0.97 (0.94-1.01)	0.178	0.95 (0.94-0.97)	3.64E-04	24	-0.027 (0.032, -0.022)	1.00 (0.97-1.04)	0.787	0.999	1.00 (0.96-1.04)	0.959	0.98 (0.92-1.04)	0.487	1.00 (0.97-1.04)	0.754			
-0.001 (-0.003, 0.002)	1.00 (0.98-1.02)	0.734	0.406	1.00 (0.98-1.02)	0.734	0.406	0.734	1.00 (0.98-1.02)	0.734	17	-0.001 (0.001, 0.002)	0.98 (0.95-1.01)	0.606	0.999	0.97 (0.92-1.02)	0.618	0.98 (0.86-0.99)	0.024	0.98 (0.95-1.02)	0.417			
-0.002 (0.003, 0.007)	1.01 (0.97-1.05)	0.657	0.837	1.01 (0.97-1.05)	0.714	1.03 (0.96-1.10)	0.842	1.01 (0.98-1.03)	0.547	33	0.001 (0.002, 0.004)	0.97 (0.86-1.09)	0.626	0.999	1.01 (0.84-1.08)	0.802	1.00 (0.86-1.12)	0.974	1.03 (1.00-1.06)	0.1			
-0.027 (-0.083, 0.031)	0.86 (0.70-1.05)	0.133</																					

		Triple negative										
MRLOCUS clusters	MRLOCUS slope alpha (95% Int)	IWW OR (95% CI)	IWW P	IWW FDR-Adjusted P	Median OR (95% CI)	Median P	Egger OR (95% CI)	Egger P	MR PRESSO OR (95% CI)	MR PRESSO P	MRLOCUS clusters	MRLOCUS slope alpha (95% Int)
	0.034 (+0.008, 0.059)			4.18E-04	1.03 (1.01-1.05)	0.01	1.03 (0.99-1.06)	0.098	1.04 (1.02-1.06)		6.65E-05	0.003 (+0.003, 0.008)
46	-0.010 (+0.025, 0.006)	0.97 (0.91-1.04)	0.41	0.764	1.00 (0.93-1.07)	0.969	1.03 (0.80-1.31)	0.84	0.97 (0.91-1.04)	0.442	29	-0.047 (+0.098, 0.006)
29	0.002 (+0.006, 0.011)	1.12 (0.85-1.40)	0.338	0.736	NA	NA	NA	NA	NA	NA	14	-0.012 (+0.020, 0.006)
14	-0.009 (-0.028, 0.010)	1.00 (0.95-1.04)	0.834	0.952	1.00 (0.95-1.05)	0.975	1.01 (0.90-1.14)	0.84	1.00 (0.97-1.03)	0.778	26	0.015 (+0.009, 0.038)
26	0.004 (+0.005, 0.013)	0.97 (0.95-0.99)	0.016	0.331	0.99 (0.96-1.02)	0.387	1.01 (0.96-1.06)	0.641	0.97 (0.96-0.99)	0.004	35	0.009 (+0.003, 0.021)
35	0.002 (+0.004, 0.007)	1.11 (1.08-1.14)	2.18E-13	4.81E-10	1.11 (1.06-1.16)	2.18E-13	1.11 (1.08-1.14)	2.18E-09	1.11 (1.08-1.14)	2.18E-09	48	0.005 (+0.003, 0.013)
48	0.004 (+0.005, 0.014)	1.01 (0.96-1.07)	0.598	0.901	1.00 (0.93-1.07)	0.931	0.85 (0.68-1.07)	0.164	1.01 (0.97-1.06)	0.508	37	0.008 (+0.009, 0.026)
37	0.011 (+0.025, 0.047)	1.00 (0.94-1.07)	0.959	0.988	1.01 (0.93-1.09)	0.815	1.07 (0.82-1.41)	0.602	1.00 (0.97-1.03)	0.918	19	-0.029 (+0.075, 0.017)
19	0.007 (+0.016, 0.028)	1.03 (0.90-1.10)	0.408	0.762	1.04 (0.95-1.13)	0.37	0.95 (0.77-1.16)	0.592	1.03 (0.97-1.09)	0.368	21	-0.009 (+0.026, 0.008)
21	0.046 (+0.100, 0.077)	0.97 (0.85-1.12)	0.69	0.921	NA	NA	NA	NA	NA	NA	26	0.024 (+0.001, 0.048)
26	-0.043 (-0.094, 0.009)	0.77 (0.64-0.94)	0.009	0.233	NA	NA	NA	NA	NA	NA	11	-0.145 (+0.228, 0.061)
11	0.065 (0.020, 0.111)	1.03 (0.99-1.06)	0.112	0.621	1.04 (1.00-1.07)	0.04	1.03 (0.97-1.10)	0.294	1.03 (0.99-1.06)	0.127	38	-0.012 (+0.024, 0.000)
38	-0.003 (+0.016, 0.009)	0.90 (0.85-0.96)	0.003	0.045	0.90 (0.86-0.99)	0.032	1.02 (0.83-1.27)	0.836	0.90 (0.87-0.94)	0.003	35	0.003 (+0.008, 0.000)
35	-0.001 (-0.003, 0.001)	1.02 (1.00-1.04)	0.02	0.356	1.02 (1.00-1.05)	0.066	1.03 (0.99-1.08)	0.108	1.02 (1.00-1.04)	0.031	36	0.002 (+0.003, 0.007)
36	0.025 (+0.018, 0.067)	0.97 (0.93-1.02)	0.326	0.796	1.00 (0.94-1.06)	0.968	0.95 (0.81-1.12)	0.54	0.97 (0.93-1.02)	0.35	30	-0.005 (+0.021, 0.012)
30	-0.001 (+0.003, 0.002)	1.03 (1.00-1.06)	0.081	0.586	1.01 (0.97-1.06)	0.508	1.01 (0.95-1.09)	0.673	1.01 (1.00-1.06)	0.084	44	0.002 (+0.008, 0.007)
44	-0.004 (-0.017, 0.009)	0.93 (0.89-0.96)	1.60E-04	0.016	0.94 (0.89-0.99)	0.023	0.94 (0.87-1.02)	0.14	0.93 (0.90-0.95)	3.44E-04	37	0.009 (+0.002, 0.020)
37	0.006 (+0.007, 0.018)	1.05 (1.01-1.09)	0.009	0.233	1.05 (1.01-1.10)	0.012	1.06 (0.98-1.16)	0.16	1.05 (1.03-1.06)	0.001	27	0.012 (+0.005, 0.028)
27	0.005 (+0.003, 0.007)	1.02 (0.95-1.08)	0.6	0.901	1.00 (0.93-1.09)	0.898	0.92 (0.74-1.15)	0.47	1.02 (0.97-1.07)	0.54	13	-0.001 (+0.002, 0.000)
13	0.004 (+0.003, 0.012)	1.00 (0.98-1.02)	0.834	0.952	1.01 (0.99-1.03)	0.41	1.02 (0.99-1.05)	0.268	1.00 (0.99-1.01)	0.781	38	0.000 (+0.003, 0.002)
38	0.005 (+0.006, 0.016)	1.08 (1.03-1.13)	0.001	0.056	1.07 (1.01-1.13)	0.014	1.10 (0.97-1.25)	0.121	1.08 (1.03-1.13)	0.009	27	0.011 (+0.003, 0.024)
27	0.048 (+0.010, 0.087)	1.06 (1.04-1.08)	3.93E-07	1.02E-04	1.06 (1.03-1.10)	1.87E-04	1.07 (1.02-1.12)	0.009	1.06 (1.04-1.08)	3.01E-06	40	0.001 (+0.002, 0.005)
40	0.000 (+0.001, 0.001)	1.03 (1.01-1.05)	0.001	0.045	1.03 (1.01-1.06)	0.009	1.01 (0.97-1.04)	0.657	1.03 (1.02-1.04)	1.72E-04	46	0.001 (+0.001, 0.002)
46	0.003 (+0.007, 0.013)	1.12 (0.98-1.28)	0.088	0.589	NA	NA	NA	NA	NA	NA	16	-0.001 (+0.004, 0.002)
16	-0.008 (-0.018, 0.001)	1.00 (0.97-1.02)	0.746	0.939	1.01 (0.98-1.04)	0.634	1.01 (0.97-1.06)	0.579	1.00 (0.97-1.02)	0.748	55	-0.005 (+0.018, 0.008)
55	0.008 (+0.001, 0.018)	0.99 (0.96-1.02)	0.442	0.79	0.99 (0.96-1.02)	0.442	0.99 (0.96-1.02)	0.442	0.99 (0.96-1.02)	0.450	21	-0.002 (+0.009, 0.001)
21	-0.004 (-0.017, 0.009)	1.00 (0.92-1.08)	0.919	0.972	1.01 (0.92-1.11)	0.839	1.04 (0.75-1.45)	0.796	1.00 (0.95-1.05)	0.877	22	-0.047 (+0.080, 0.013)
22	0.000 (+0.001, 0.019)	1.03 (1.00-1.06)	0.059	0.551	1.01 (0.97-1.05)	0.585	0.99 (0.92-1.06)	0.755	1.03 (1.00-1.06)	0.078	26	-0.001 (+0.006, 0.003)
26	0.000 (+0.015, 0.018)	0.83 (0.69-1.00)	0.057	0.551	NA	NA	NA	NA	NA	NA	15	-0.017 (+0.002, 0.030)
15	-0.001 (-0.006, 0.004)	0.98 (0.88-1.11)	0.806	0.939	1.02 (0.94-1.11)	0.668	0.90 (0.42-1.90)	0.779	0.98 (0.88-1.11)	0.818	23	-0.013 (+0.052, 0.026)
23	-0.007 (-0.024, 0.010)	0.99 (0.85-1.17)	0.948	0.983	NA	NA	NA	NA	NA	NA	97	-0.005 (+0.014, 0.005)
97	-0.001 (+0.005, 0.002)	1.02 (1.00-1.05)	0.052	0.547	1.01 (0.98-1.04)	0.637	1.00 (0.95-1.05)	0.97	1.02 (1.00-1.04)	0.017	47	0.006 (+0.002, 0.013)
47	0.023 (+0.035, 0.010)	0.97 (0.90-1.06)	0.549	0.864	1.00 (0.94-1.07)	0.958	0.96 (0.71-1.36)	0.817	0.97 (0.90-1.06)	0.575	17	-0.105 (+0.154, 0.035)
17	0.015 (+0.004, 0.034)	0.97 (0.95-0.99)	0.001	0.065	0.98 (0.95-1.00)	0.084	0.97 (0.94-1.00)	0.096	0.97 (0.96-0.99)	0.001	63	-0.002 (+0.006, 0.002)
63	-0.061 (+0.098, 0.023)	0.99 (0.97-1.02)	0.654	0.913	1.00 (0.97-1.04)	0.775	1.03 (0.98-1.09)	0.253	0.99 (0.97-1.02)	0.659	42	-0.005 (+0.015, 0.005)
42	0.004 (+0.005, 0.012)	0.97 (0.95-1.00)	0.054	0.551	0.98 (0.94-1.02)	0.654	0.98 (0.92-1.05)	0.556	0.97 (0.95-1.00)	0.062	38	0.001 (+0.003, 0.002)
38	0.006 (+0.007, 0.020)	1.01 (0.97-1.05)	0.532	0.854	1.00 (0.96-1.05)	0.864	0.97 (0.86-1.08)	0.556	1.01 (0.99-1.04)	0.381	29	0.003 (+0.004, 0.010)
29	0.001 (+0.002, 0.004)	1.01 (0.99-1.03)	0.275	0.724	1.00 (0.98-1.03)	0.774	1.00 (0.96-1.04)	0.955	1.01 (1.00-1.02)	0.087	24	0.000 (+0.001, 0.002)
24	0.002 (+0.003, 0.006)	0.96 (0.94-0.98)	1.63E-05	0.002	0.95 (0.93-0.98)	0.002	0.95 (0.93-0.97)	0.001	0.96 (0.94-0.97)	2.84E-02	42	-0.002 (+0.006, 0.002)
42	0.007 (+0.005, 0.019)	1.01 (0.98-1.05)	0.412	0.764	1.02 (0.98-1.06)	0.805	1.02 (0.98-1.09)	0.637	1.01 (0.98-1.04)	0.373	81	0.003 (+0.002, 0.008)
81	-0.176 (+0.282, -0.069)	0.83 (0.68-1.01)	0.067	0.568	NA	NA	NA	NA	NA	NA	19	-0.027 (+0.060, 0.006)
19	0.024 (+0.006, 0.042)	0.99 (0.97-1.02)	0.639	0.913	1.00 (0.97-1.03)	0.828	1.00 (0.94-1.05)	0.906	0.99 (0.97-1.02)	0.647	37	0.016 (+0.000, 0.032)
37	0.011 (+0.032, 0.011)	0.97 (0.92-1.02)	0.268	0.724	1.00 (0.94-1.06)	0.902	0.97 (0.83-1.14)	0.739	0.97 (0.92-1.02)	0.3	24	-0.005 (+0.021, 0.012)
24	0.003 (+0.008, 0.015)	0.98 (0.92-1.04)	0.516	0.846	1.00 (0.94-1.07)	0.969	1.03 (0.81-1.29)	0.828	0.98 (0.92-1.04)	0.534	29	-0.019 (+0.045, 0.007)
29	-0.036 (+0.054, 0.007)	0.79 (0.67-0.94)	0.009	0.233	NA	NA	NA	NA	NA	NA	27	-0.006 (+0.031, 0.018)
27	0.049 (+0.036, 0.132)	0.82 (0.70-0.95)	0.007	0.399	NA	NA	NA	NA	NA	NA	13	0.036 (+0.022, 0.093)
13	0.010 (+0.003, 0.024)	1.02 (1.00-1.04)	0.115	0.622	1.00 (0.97-1.04)	0.787	0.99 (0.94-1.04)	0.648	1.02 (1.00-1.04)	0.108	52	0.000 (+0.001, 0.001)
52	-0.013 (+0.044, 0.017)	0.80 (0.64-0.99)	0.039	0.505	NA	NA	NA	NA	NA	NA	17	-0.017 (+0.046, 0.012)
17	-0.020 (+0.061, 0.020)	0.97 (0.82-1.02)	0.198	0.724	0.98 (0.92-1.04)	0.474	0.96 (0.81-1.15)	0.685	0.97 (0.94-1.00)	0.063	22	0.004 (+0.003, 0.011)
22	0.003 (+0.010, 0.005)	1.01 (0.97-1.04)	0.667	0.913	0.99 (0.95-1.04)	0.798	0.97 (0.87-1.08)	0.608	1.01 (0.98-1.04)	0.629	30	0.007 (+0.001, 0.014)
30	0.004 (+0.002, 0.010)	0.99 (0.92-1.06)	0.694	0.921	0.99 (0.91-1.08)	0.787	1.05 (0.87-1.28)	0.58	0.99 (0.95-1.02)	0.512	137	-0.001 (+0.005, 0.003)
137	-0.004 (+0.009, 0.000)	1.00 (0.98-1.02)	0.74	0.939	1.01 (0.98-1.03)	0.641	1.01 (0.97-1.05)	0.7	1.00 (0.98-1.02)	0.742	57	-0.011 (+0.021, 0.001)
57	0.007 (+0.013, 0.017)	0.98 (0.95-1.00)	0.069	0.57	0.99 (0.96-1.03)	0.624	1.02 (0.96-1.08)	0.522	0.98 (0.96-1.00)	0.069	22	0.001 (+0.003, 0.005)
22	0.008 (+0.006, 0.011)	1.00 (0.95-1.06)	0.888	0.961	1.01 (0.94-1.08)	0.862	1.11 (0.93-1.34)	0.245	1.00 (0.96-1.04)	0.848	59	0.003 (+0.003, 0.010)
59	0.039 (+0.016, 0.094)	1.06 (0.89-1.26)	0.538	0.858	NA	NA	NA	NA	NA	NA	16	0.026 (+0.019, 0.071)
16	-0.015 (+0.032, 0.001)	1.01 (0.98-1.05)	0.509	0.838	1.02 (0.97-1.07)	0.503	1.00 (0.91-1.10)	0.887	1.01 (0.98-1.05)	0.512	31	0.000 (+0.001, 0.000)
31	-0.012 (+0.023, 0.000)	0.98 (0.96-1.00)	0.04	0.505	0.99 (0.96-1.02)	0.606	1.02 (0.96-1.08)	0.457	0.98 (0.96-0.99)	0.017	36	0.004 (+0.002, 0.010)
36	-0.023 (+0.044, 0.003)	0.98 (0.95-1.02)	0.312	0.733	0.99 (0.95-1.04)	0.727	1.00 (0.91-1.09)	0.93	0.98 (0.95-1.01)	0.297	37	-0.016 (+0.044, 0.012)
37	0.002 (+0.006, 0.011)	1.04 (0.82-1.31)	0.768	0.939	NA	NA	NA	NA	NA	NA	17	0.000 (+0.001, 0.002)
17	0.001 (+0.003, 0.005)	0.95 (0.92-0.98)	0.002	0.072	0.94 (0.91-0.98)	0.006	0.94 (0.87-1.01)	0.108	0.95 (0.93-0.97)	0.001	20	-0.048 (+0.086, 0.001)
20	-0.012 (+0.036, 0.013)	0.97 (0.89-1.05)	0.409	0.763	1.00 (0.93-1.08)	0.977	0.95 (