

| REAGENTS | | |
|-----------------------------------|--------------------------|------------|
| Immunostaining reagents/materials | | |
| Donkey serum | EMD Millipore | S30-100ML |
| Goat Serum | mpbio | 08642921 |
| Triton X-100 | SIGMA | T8787-50ML |
| Paraformaldehyde | SIGMA | P6148-500G |
| Donkey anti-goat Alexa fluor 488 | Thermo Fisher Scientific | A11055 |
| Donkey anti-mouse Alexa fluor 488 | Thermo Fisher Scientific | A21202 |
| Goat anti-rabbit Alexa fluor 568 | Thermo Fisher Scientific | A11036 |
| Donkey anti-mouse Alexa fluor 568 | Thermo Fisher Scientific | A10037 |
| VECTASHIELD mounting medium | VECTOR, Inc | ZC1216 |
| CoverWell imaging chamber | ThermoFisher Scientific | C18160 |
| Growth media and supplements | | |
| DMEM | Gibco | |
| Fetal bovine serum (FBS) | R&D systems | S11150 |
| hESC qualified Matrigel | BD Biosciences | 354277 |
| mTESR1 media | Stem Cell Technologies | 05850 |
| Matrigel | BD Biosciences | 354234 |
| RPMI Medium 1640 | Thermo Fisher Scientific | 11875 |
| Penicillin-streptomycin (100 x) | Thermo Fisher Scientific | 15140-122 |
| Defined fetal bovine serum (dFBS) | Hyclone | SH30070.02 |
| Advanced DMEM:F12 | Thermo Fisher Scientific | 12634-010 |
| L-glutamine (100 x) | Thermo Fisher Scientific | 25030-081 |
| HEPES Buffer | Thermo Fisher Scientific | 15630080 |
| 50 x B27 supplement w/o Vitamin A | Thermo Fisher Scientific | 12587-010 |
| N2 Supplement | Thermo Fisher Scientific | 17502-048 |
| Enzymes/growth factors | | |
| Dispase | Thermo Fisher Scientific | 17105-041 |

| | | |
|---|---------------------------|-------------|
| Activin A | Cell Guidance Systems | GFH6 |
| recombinant human FGF4 | R&D Systems | 235-F4 |
| CHIR99021 | StemGent | 04-0004-10 |
| EGF | R&D Systems | 236-EG |
| Noggin | R&D Systems | 6057-NG |
| R-spondin 1 | R&D Systems | 4645-RS |
| Collagenase Type IA | Sigma-Aldrich | C9891 |
| RIPA lysis buffer | Sigma-Aldrich | R0278 |
| Protease inhibitors | Roche Diagnostics | 0589791001 |
| RNasin Plus Ribonuclease Inhibitors | Promega | N2615 |
| SUPERaseIN RNase Inhibitor | Thermo Fisher Scientific | AM2696 |
| Commercial Assays/kits/materials | | |
| MycoAlert™ mycoplasma detection kit | Lonza | LT07-318 |
| MycoAlert™ assay control Set | Lonza | LT07-518 |
| CytoTune-IPS 2.0 reprogramming kit | ThermoFisher | A13780-02 |
| Human Pluripotent Stem Cell Functional Identification Kit | R&D Systems | SC027B |
| RNAscope® 2.5 VS Assay-RED | Advanced Cell Diagnostics | 322250 |
| Dual-Glo® Luciferase Assay System | Promega | E2920 |
| mRNA RED detection | Roche Diagnostics | 7099037001 |
| hu-PPIB probes | Advanced Cell Diagnostics | 313909 |
| bacterial dapB | Advanced Cell Diagnostics | 312039 |
| miRNeasy kits | Qiagen | 217004 |
| TruSeq Total RNA | Illumina | 20020596 |
| ThruPLEX® Illumina next-generation sequencing (NGS) library preparation | Rubicon | R400585 |
| Amplification grade DNase I | Invitrogen | 18068- 015 |
| Human Cytokine Array C5 | RayBiotech | AAH-CYT-5-2 |
| Reparixin L-lysine salt | MedChemExpress | HY-15252 |

| | | |
|--|---|--|
| Thin wall glass capillaries | World Precision Instruments | TW100F-4 |
| micropipette holder/tubing | Sutter Instruments | BR-MH2/ BR-AT |
| Mineral oil | Thermo Fisher Scientific | 8042-47-5 |
| 4 kDa FITC-dextran | Thermo Fisher Scientific | D1844 |
| Nuclei EZ Lysis Buffer | Sigma | N-3408 |
| PluriStrainer 5/40/200 µm | PluriSelect | 43-50005/040/200 |
| Software/Tools | | Versions |
| DM IRB upright microscope-40X | Leica | LAS X version 3.7.2 |
| Confocal microscope (DM16000) | Leica | |
| Fiji | http://fiji.sc | 1.51d (June 2016) – 1.51w (March 2018) |
| Prism-v8 graphing and statistical software | GraphPad Software | |
| FastQC v0.11.5/MultiQC v0.7 | https://multiqc.info | |
| STAR v2.5.3a | https://github.com | |
| DEseq2 v3.8 | https://bioconductor.org | |
| GSEA v2 | http://software.broadinstitute.org | |
| Cytoscape v3.5.1 | https://cytoscape.org | |
| RStudio v3.5.1/3 | https://r-project.org | V3.6.2 and 3.5.3 |
| ggplot2 | http://ggplot2.org | |
| Gorilla | http://cbl-gorilla.cs | 2009 |
| REVIGO | http://revigo.irb.hr | 2011 |
| Gene Ontology Resource | http://geneontology.org | |
| Draw Venn Diagram | http://bioinformatics.psb | |
| Cutadapt v1.10 | DOI:10.14806/ej.17.1.200 | |
| Seurat 3.1.2 | | |
| Adobe Illustrator | CC2019 | |
| Experimental Models: Organisms/Strains | | |
| NOD.Cg-Prkdc ^{SCID} IL2rg ^{tm1Wjl} /SzJ (NSG) | In-house breeding service (JAX lab) | |