

SUPPLEMENTARY TABLES

Supplementary Table 1. Differentially expressed genes between IS cases and controls.

| Gene symbol | Log2(Fold Change) | P.Value |
|-------------|-------------------|-------------|
| EIF5A | -1.1933 | 0.002099 |
| TNFRSF17 | -1.01933 | 0.002283 |
| UBA6 | -0.85768 | 0.000278 |
| HLA-DQA1 | -0.68041 | 0.008006 |
| WSB1 | -0.67531 | 0.000473 |
| CLEC4C | -0.65535 | 0.000862 |
| FGD2 | -0.64528 | 0.02306 |
| SAMHD1 | -0.64312 | 0.007638 |
| TRMT13 | -0.63659 | 0.008339 |
| JCHAIN | -0.63134 | 0.008671 |
| ZCCHC7 | -0.60747 | 0.02924 |
| GPM6B | -0.59836 | 0.000005.51 |
| ZNF302 | -0.59132 | 0.012926 |
| CELF2 | -0.58962 | 0.033495 |
| CAMK2G | -0.58684 | 0.019946 |
| IGLL5 | -0.58173 | 0.018621 |
| MZB1 | -0.57712 | 0.004489 |
| ZNF304 | -0.57403 | 0.003304 |
| HSPA1A | -0.5693 | 0.012828 |
| RUFY2 | -0.56391 | 0.037698 |
| NUP58 | -0.56381 | 0.002709 |
| CENPBD1 | -0.55483 | 0.022392 |
| RNPC3 | -0.54977 | 0.001531 |
| CD48 | -0.54693 | 0.004699 |
| KBTD7 | -0.53894 | 0.012173 |
| SNX20 | -0.52295 | 0.032681 |
| NBPF1 | -0.5223 | 0.030126 |
| FAM200A | -0.51752 | 0.018003 |
| ZNF322 | -0.51256 | 0.028601 |
| HEATR3 | -0.50571 | 0.001937 |
| CA2 | 0.507187 | 0.040542 |
| ZEB2 | 0.507211 | 0.015285 |
| SLC25A37 | 0.509624 | 0.044651 |
| STK17B | 0.515491 | 0.020551 |
| ANKRD28 | 0.520735 | 0.018214 |
| HDGFRP3 | 0.524408 | 0.005869 |
| HLA-DPA1 | 0.524506 | 0.041969 |
| GABARAPL1 | 0.526229 | 0.038789 |
| OTUD1 | 0.556794 | 0.037242 |
| ATF3 | 0.561912 | 0.029651 |
| IER2 | 0.564879 | 0.003026 |
| CTSG | 0.565097 | 0.017752 |
| BTG2 | 0.572205 | 0.016947 |
| GADD45A | 0.576533 | 0.03824 |
| CENPK | 0.577414 | 0.039386 |

| | | |
|----------|----------|-----------|
| SEMA3A | 0.580613 | 0.040728 |
| WTAP | 0.583642 | 0.018787 |
| BEND2 | 0.591585 | 0.015629 |
| RGCC | 0.592948 | 0.019264 |
| OSM | 0.608016 | 0.022611 |
| FAM46C | 0.60976 | 0.043541 |
| MYNN | 0.619807 | 0.002299 |
| DUSP1 | 0.62327 | 0.001918 |
| SRSF3 | 0.652941 | 0.008371 |
| CDKN1A | 0.662769 | 0.014157 |
| OSR2 | 0.667399 | 0.045292 |
| JUNB | 0.673469 | 0.024806 |
| DDIT4 | 0.684944 | 0.025786 |
| IVNS1ABP | 0.729506 | 0.033742 |
| EIF1 | 0.752786 | 0.003225 |
| NFKBIZ | 0.770618 | 0.011562 |
| ZFP36 | 0.779854 | 0.002729 |
| BCL10 | 0.802735 | 0.038375 |
| RNF103 | 0.805624 | 0.036316 |
| CXCL5 | 0.827036 | 0.028031 |
| NFKBIA | 0.86851 | 0.007028 |
| SRGN | 0.880942 | 0.00618 |
| FOS | 0.911193 | 0.01931 |
| NLRP3 | 0.939853 | 0.0409 |
| TNFAIP3 | 0.94393 | 0.010292 |
| CD69 | 0.995602 | 0.008668 |
| JUN | 1.004354 | 0.002012 |
| EGR1 | 1.044415 | 0.015669 |
| SOCS3 | 1.081229 | 0.024539 |
| CCNL1 | 1.092057 | 0.001487 |
| PPP1R15A | 1.175647 | 0.010564 |
| IER3 | 1.191708 | 0.004557 |
| SAMSN1 | 1.22593 | 0.004521 |
| CD83 | 1.227051 | 0.047692 |
| DUSP2 | 1.231341 | 0.010523 |
| VIM | 1.313405 | 0.000665 |
| NAMPT | 1.32224 | 0.007202 |
| TMEM107 | 1.355714 | 0.0000713 |
| RGS1 | 1.363352 | 0.023201 |
| SOD2 | 1.411694 | 0.009472 |
| IL1B | 1.505815 | 0.047103 |
| TNF | 1.532196 | 0.005671 |
| NR4A2 | 1.541275 | 0.042084 |
| PTGS2 | 1.732055 | 0.022318 |
| CCL3 | 1.892582 | 0.004771 |
| CXCL2 | 2.257273 | 0.020861 |
| GOS2 | 2.281486 | 0.004278 |
| CXCL8 | 2.610594 | 0.0019 |

Supplementary Table 2. Differentially expressed non-coding RNAs between IS cases and controls.

| Gene symbol | Log2(Fold Change) | P.Value |
|-------------|-------------------|----------|
| DLEU2 | -0.88707 | 0.007371 |
| IGHG1 | -0.69232 | 0.018252 |
| HOTAIRM1 | -0.56951 | 0.030839 |
| IGH | -0.56758 | 0.039072 |
| IGKV4-1 | -0.53246 | 0.020974 |
| IGKC | -0.50469 | 0.03053 |
| TRAV25 | -0.50141 | 0.048237 |
| MEG3 | 0.565392 | 0.002795 |
| TRBV27 | 0.882075 | 0.025381 |
| LINC00936 | 1.109992 | 0.002261 |
| SNORD3A | 1.428808 | 0.001495 |
| BRE-AS1 | 1.430751 | 0.0335 |

Supplementary Table 3. The RNAi and miRNA mimics and inhibitor sequences for cell transfection.

| Sequences (5' → 3') | | |
|----------------------|-----------|-------------------------------------|
| Si-MEG3 1 | Sense | 5'- AACAGCAAUUGGCACAGGAAGAGACGC -3' |
| | Antisense | 5'- GCGUCUCCUGUGCCAUUUGCUGUU-3' |
| Si-MEG3 2 | Sense | 5'- AACUGGAGGAUGCAGGCUGGAAACA-3' |
| | Antisense | 5'- UGUUCCAGCCUGCAUCCUCCAGUU -3' |
| si-SEMA3A 1 | | 5'- GGATGGGTCCTCATGCTCAC -3' |
| si-SEMA3A 2 | | 5'- GGAGCAGCAACAAGTGGAA -3' |
| miR-424-5p mimics | | 5'- CAGCAGCAAUUCAUGUUUUGGA -3' |
| miR-424-5p inhibitor | | 5'- UCCAAAACAUGAAUUGCUGCUG -3' |

Supplementary Table 4. The primer sequences for qRT-PCR.

| The primer sequences (5' → 3') | | |
|--------------------------------|----------|--|
| MEG3 | Forward: | 5'- GTGGACAATGGTGTCCAGGC -3' |
| | Reverse: | 5'- TTAACTCAGAGCGGGTCTCC -3' |
| miR-424-5p | Forward: | 5'- ACACTCCAGCTGGGCAGCAGCAATTCATGT -3' |
| | Reverse: | 5'- TGGTGTCTGGAGTCG -3' |
| SEMA3A | Forward: | 5'- GCCTGCAGAAGAAGGATTCA -3' |
| | Reverse: | 5'- TCAGGTTGGGTTGGTTAATG -3' |
| GAPDH | Forward: | 5'- GTCAACGGATTGGTCTGTATT -3' |
| | Reverse: | 5'- AGTCTTCTGGGTGGCAGTGAT -3' |
| U6 | Forward: | 5'- CTCGCTTCGGCAGCACA -3' |
| | Reverse: | 5'- AACGCTTCACGAATTTGCGT -3' |