Supplementary Table 1 List of primers

Gapdh, *Il4*, *Il17a*, *Il18*, *Ifng*, *Nos2*, *Tnfa*, *Tbet*, *Rorgt*, *Gata3* and *Cela3b* primer sets were

described previously (Ref. Jayaraman et al., 2013). Other primer sets used in this study are listed below:

Il10: Forward-5'- AGCCTTATCGGAAATGATCCAGT -3'
Il10: Reverse-5'- GGCCTTGTAGACACCTTGGT -3'

Il12p35: Forward-5'- AAGACATCACACGGGACCAAA -3'
Il12p35: Reverse-5'- CAGGCAACTCTCGTTCTTGTGTA -3'

Il22: Forward-5'- AGAAGGCTGAAGGAGACAGT -3'
Il22: Reverse-5'- GACATAAACAGCAGGTCCAGTT -3'

Il23: Forward-5'- ACCTCACCACTCATTTCCCC -3'
Il23: Reverse-5'- CGACTTCTAAGCGGCTTCCT -3'

Il27p28: Forward-5'- TTCCCAATGTTTCCCTGACTTT -3'
Il27p28: Reverse-5'- AAGTGTGGTAGCGAGGAAGCA -3'

Il27ebi3: Forward-5'- TGAAACAGCTCTCGTGGCTCTA -3'
Il27ebi3: Reverse-5'- GCCACGGGATACCGAGAA -3'

Csf2: Forward-5'- AAGGTCCTGAGGAGGATGTG -3'
Csf2: Reverse-5'- GAGGTTCAGGGCTTCTTTGA -3'

*Mif*4gd: Forward-5'- CCTGTCTATGACTGTCTCTTCC -3'
*Mif*4gd: Reverse-5'- GCCCGTTCATCTTCTCCAG -3'

Tgfb: Forward-5'- TGACGTCACTGGAGTTGTACGG -3'
Tgfb: Reverse-5'- GGTTCATGTCATGGATGGTGC -3'

Mmp9: Forward-5'- TGAGTCCGGCAGACAATCCT -3'
Mmp9: Reverse-5'- TCTTGGTCTGCGGATCCTCA -3'

Mmp12: Forward-5'- CATGAAGCGTGAGGATGTAG -3'
Mmp12: Reverse-5'- TAGTTGAAGTCTCCGTGAGC -3'

Arg1: Forward-5'- GCTTTTGTGGGTCCAACACC -3'
Arg1: Reverse-5'- TTCCCCCAGGTTGCAAAGTT -3'

Cd39: Forward-5'- TGGGTTAGAGTTTAGAGGCAGG -3'
Cd39: Reverse-5'- CTGCTGCAGGTCGGAGAAAT -3'

Cd274: Forward-5'- CGCCCTTTTTATTTAATGTATGGA -3'
Cd274: Reverse-5'- AAGTGAGGCGTCTGTGTTTGAG -3'

Eomes: Forward-5'- GGAAGTGACAGAGGACGGTG -3'
Eomes: Reverse-5'- GCCGTGTACATGGAATCGTAG -3'

Ahr: Forward-5'- CCCACATCCGCATGATTAAGAC -3'
Ahr: Reverse-5'- CCTTCTTCATCCGTCAGTGGTC -3'

Dec1: Forward-5'- CGTTGAAGCACGTGAAAGCA -3'
Dec1: Reverse-5'- GAGACACTAATCAGGCCGGG -3'

Foxp3: Forward-5'- CCATCCCCAGGAGTCTTG -3'
Foxp3: Reverse-5'- ACCATGACTAGGGGCACTGTA -3'

Ccl2: Forward-5'- TAAAAACCTGGATCGGAACCAAA   -3'
Ccl2: Reverse-5'- GCATTAGCTTCAGATTTACGGGT -3'

Ccr2: Forward-5'- CACTCCTTAACCTCAGCGGG -3'
Ccr2: Reverse-5'- TGCACACCCACAACTGTCTT -3'

Hdac1: Forward-5'- CTGGGTTGTGTTTCTGTTGG -3'
Hdac1: Reverse-5'- AAGTGGTGTAAGCCTGGAGT -3'

Hdac2: Forward-5'- GGAACCTCGAAAAGTGAGAC -3'
Hdac2: Reverse-5'- CAGCTCAGAAAGGCCAATTGT-3'

Hdac3: Forward-5'-   AACCCTGCATATTGGTGGGG -3'
Hdac3: Reverse-5'- TTCCCTTTTGTGCCCACTCC -3'

Hdac4: Forward-5'-   ACTTTGTCAGCCTGTGAGTTTG -3'
Hdac4: Reverse-5'- TGTGAGCTACAAGCTGTGCC -3'

Hdac5: Forward-5'-   AGTGAGAGCACCCAGGAAGA -3'
Hdac5: Reverse-5'- GTACACCTGGAGGGGCTGTA -3'

Hdac6: Forward-5'-   TGAGTCACTGCAACCTCTGG -3'
Hdac6: Reverse-5'- GTGGCAGGTAAGGAGCTCAG -3'

Hdac7: Forward-5'-   TTTCTACCAGGACCCCAGTG -3'
Hdac7: Reverse-5'- AAGCAGCCAGGTACTCAGGA -3'

Hdac8: Forward-5'-   AGCCTGTTTCACCAGAACTCC -3'
Hdac8: Reverse-5'- TGTGCAGTAAGGGTAGGGGA -3'

Hdac9: Forward-5'-   CGCGTAGGCAGACATGTAGA -3'
Hdac9: Reverse-5'- ACCTGTCCAACAAGGCAAAC -3'

Hdac10: Forward-5'- CCAGACCCCTTACTGGACAA -3'
Hdac10: Reverse-5'- CCAGGAGGTAAGCACAGAGC -3'

Hdac11: Forward-5'- TGAAAACACGTTTGGGATGA -3'
Hdac11: Reverse-5'- GTGGGGCCACTGTACCTAGA -3'

The primer sets were designed, and specificity validated using Primer3 and BLAST on

NCBI database (ncbi.nim.nih.gov), and BiSearch Web Server tool (bisearch.enzim.hu).

The melting temperature of the PCR amplificons was monitored and the PCR products

were assessed on low-melt agarose gel for the expected size.

Legends to Supplementary Figures

Supplementary Fig. 1 Differential modulation of lymphokine genes by TSA treatment. Female NOD mice were immunized and treated with DMSO (empty bars) or TSA (hatched bars) and sacrificed at the indicated time points. The spinal cord (SC) and spleen + draining lymph nodes (SP) were analyzed for gene expression separately. Total RNA was pooled from five mice per group, and qRT-PCR performed in triplicate. Individual data are shown for DMSO (empty circles), or TSA (empty squares) treated samples. Mean ± SEM for triplicate samples derived from five mice/group/time point is shown. Unimmunized mice treated with DMSO or TSA were analyzed one day after treatment and indicated at Day 1 time point. Statistical significance ($P<0.05$) determined using a two-tailed paired t-test is indicated by asterisks.

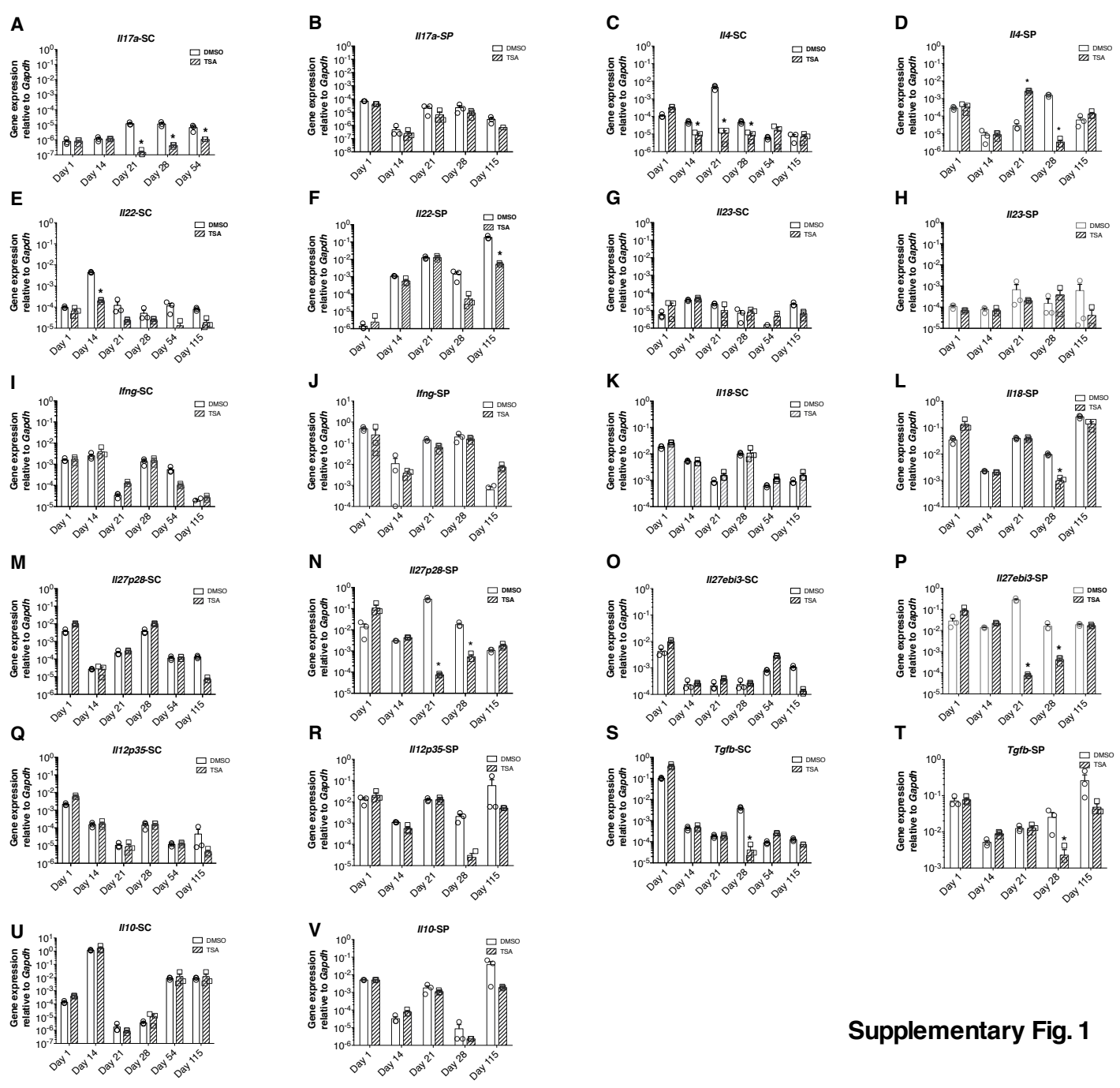**Supplementary Fig. 2 Discordant regulation of genes encoding cytokines by TSA treatment.** The expression of cytokine genes in NOD mice immunized and treated with DMSO (empty bars) or TSA (hatched bars) was examined in the spinal cord (SC) and spleen + draining lymph nodes (SP). Individual data are shown for DMSO (empty circles), or TSA (empty squares) treated samples. Mean ± SEM for triplicate samples derived from five mice/group/time point is shown. Unimmuniz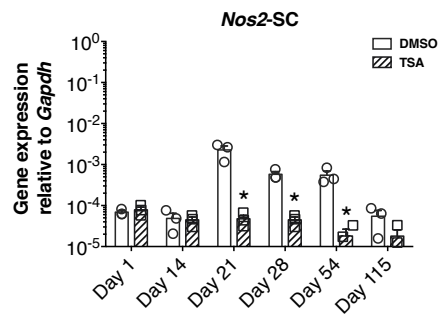ed mice treated with DMSO or TSA were analyzed one day after treatment and indicated at Day 1 time point. Statistical significance ($P<0.05$) determined using a two-tailed paired t-test is indicated by asterisks.

Supplementary Fig. 3 Differential TSA-mediated of repression of accessory cell-associated genes. The expression of accessory cell-associated genes in NOD mice immunized and treated with DMSO (empty bars), or TSA (hatched bars) was examined in the spinal cord (SC) and spleen + draining lymph nodes (SP). Individual data are shown for DMSO (empty circles) or TSA (empty squares) treated samples. Mean ± SEM for triplicate samples derived from five mice/group/time point is shown. Unimmunized mice treated with DMSO or TSA were analyzed one day after
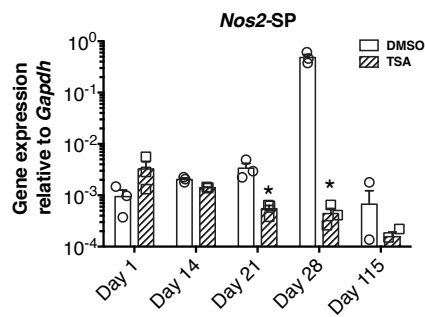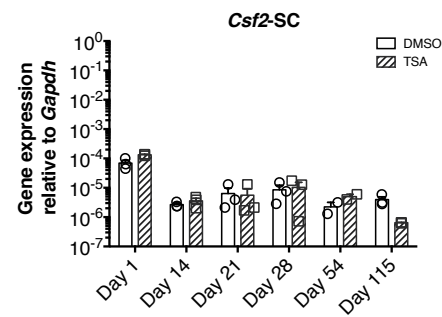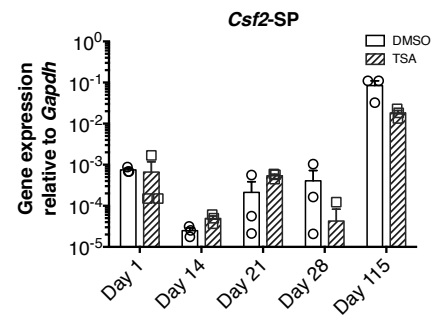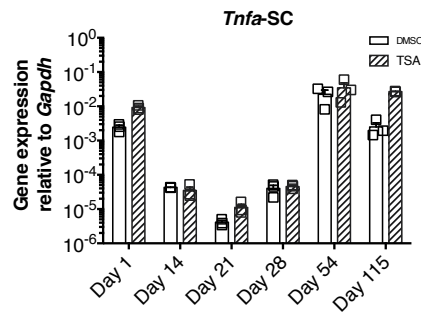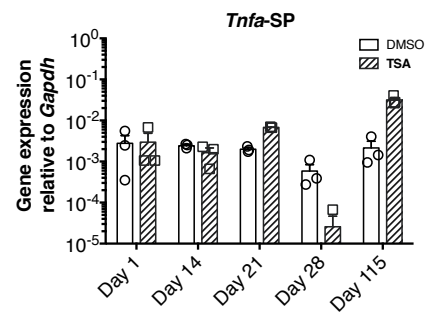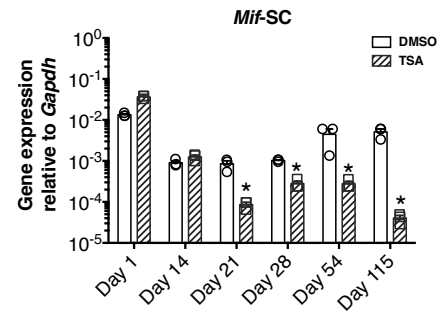
treatment and indicated at Day 1 time point. Statistical significance (P<0.05) determined using a two-tailed paired t-test is indicated by asterisks.

Supplementary Fig. 4 Modified expression of genes encoding transcription factors by TSA treatment. The expression of transcription factor genes in NOD mice immunized and treated with DMSO (empty bars) or TSA (hatched bars) was examined in the spinal cord (SC) and spleen + draining lymph nodes (SP). Individual data are shown for DMSO (empty circles), or TSA (empty squares) treated samples. Mean ± SEM for triplicate samples derived from five mice/group/time point is shown. Unimmuniz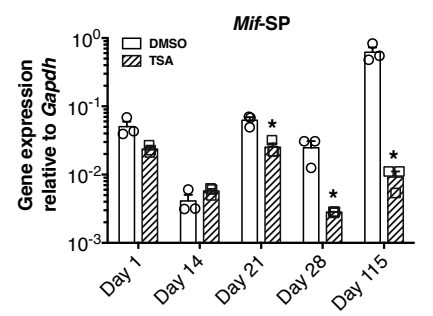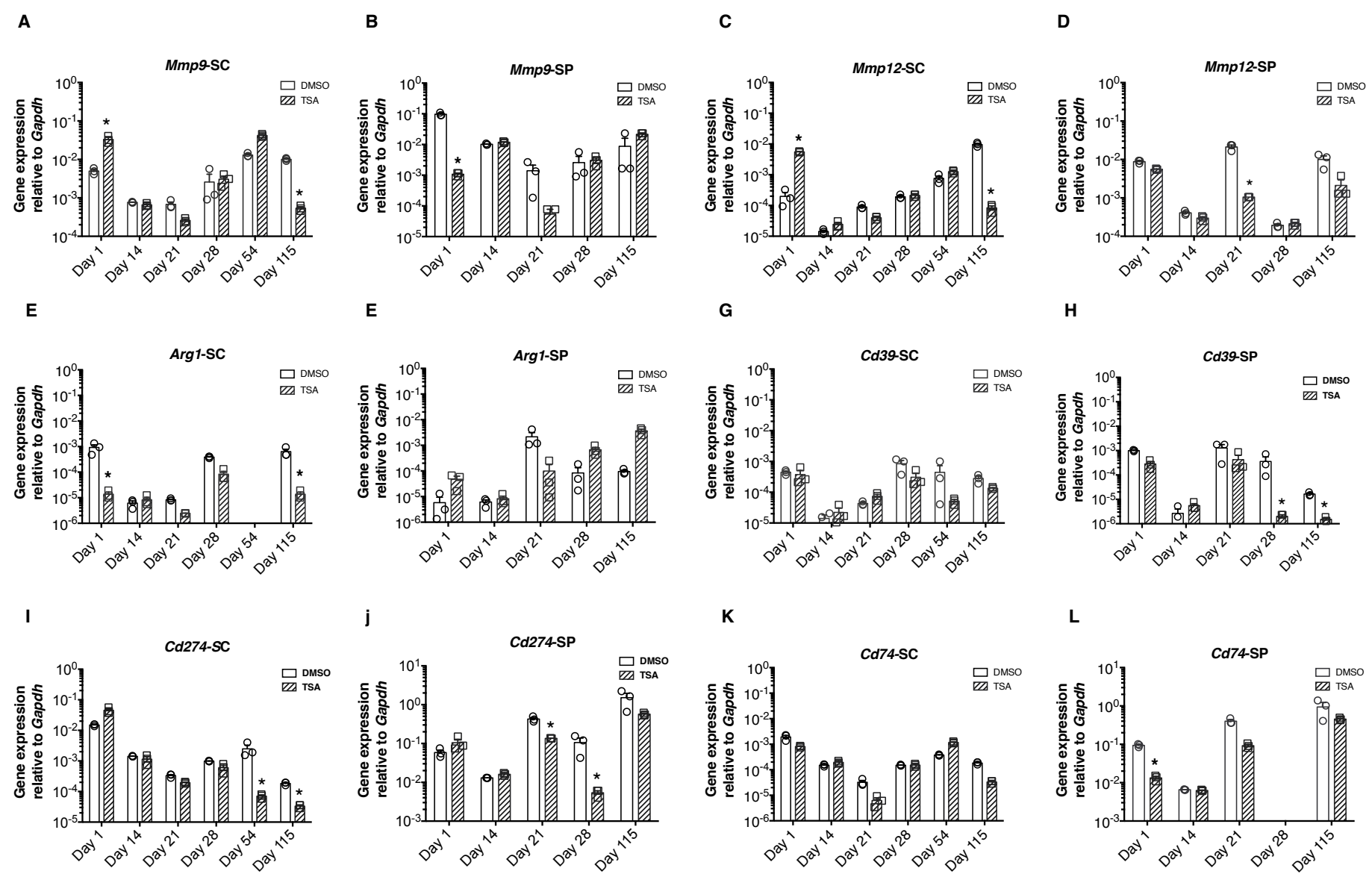ed mice treated with DMSO or TSA were analyzed one day after treatment and indicated at Day 1 time point. Statistical significance (P<0.05) determined using a two-tailed paired t-test is indicated by asterisks.

Supplementary Fig. 5 Lack of pronounced effect of TSA on *Hdac* genes expressed in lymphoid cells. Unimmunized NOD mice treated with DMSO (empty bars) or TSA (hatched bars) were analyzed for the expression of *Hdac* genes one day after treatment (**A**). Mice immunized with MOG$_{35-55}$ and treated variously were also analyzed (**B-D**). Total RNA was pooled from spleen + draining lymph nodes (SP) from five mice per group, and qRT-PCR performed in triplicate. Individual triplicate values, along with mean ± SEM, are shown. Statistical significance (P<0.05) determined using a two-tailed paired t-test is indicated by asterisks.
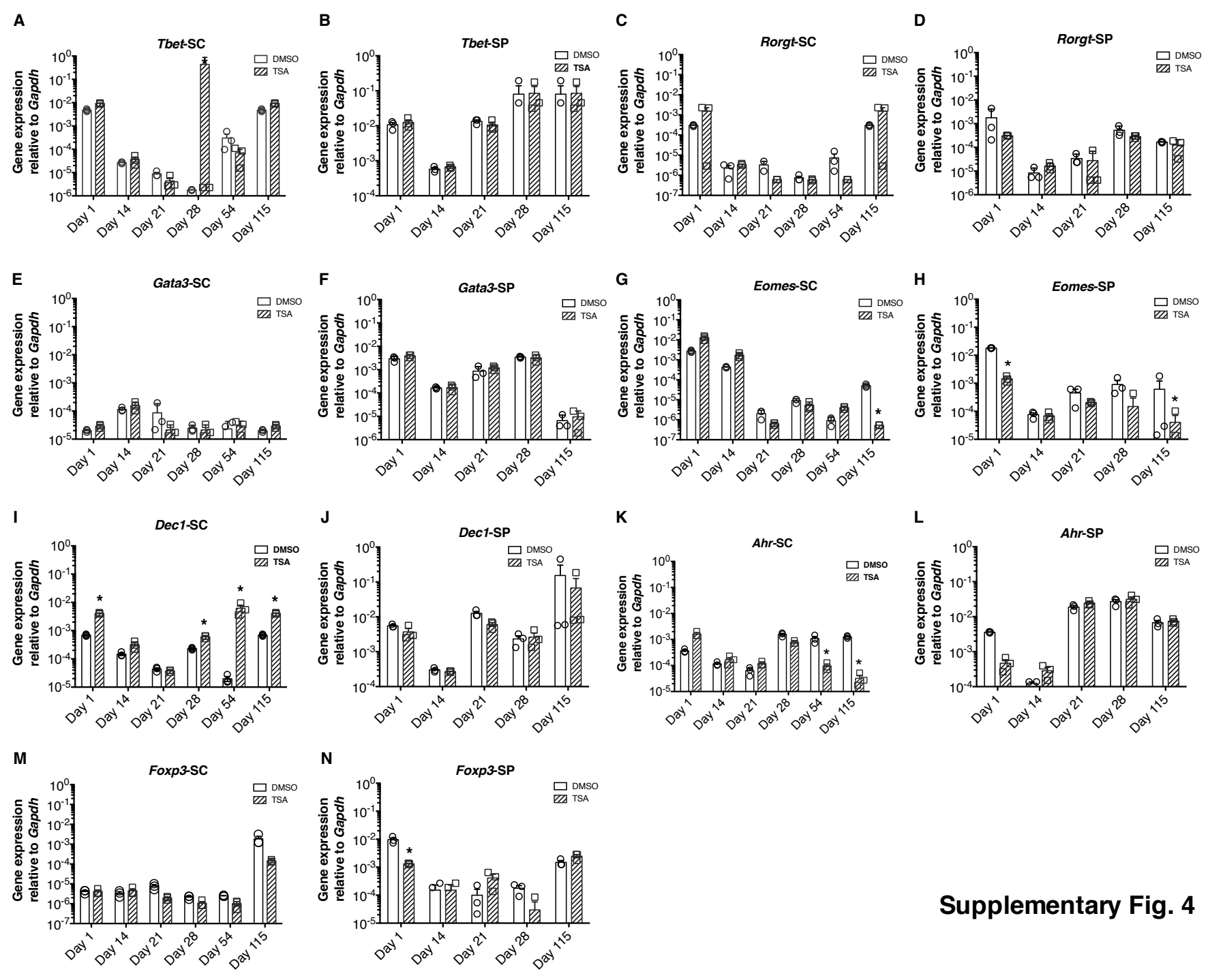
Supplementary Fig. 1

Supplementary Fig. 2

Supplementary Fig. 3

Supplementary Fig. 4

A

NOD unimmunized-SP

□ DMSO
▨ TSA

Gene expression relative to *Gapdh*

Hdac1, Hdac2, Hdac3, Hdac4, Hdac5, Hdac6, Hdac7, Hdac8, Hdac9, Hdac10, Hdac11

B

Day 14 immunized-SP

□ DMSO
▨ TSA

Gene expression relative to *Gapdh*

Hdac1, Hdac2, Hdac3, Hdac4, Hdac5, Hdac6, Hdac7, Hdac8, Hdac9, Hdac10, Hdac11

C

Day 21 immunized-SP

□ DMSO
▨ TSA

Gene expression relative to *Gapdh*

Hdac1, Hdac2, Hdac3, Hdac4, Hdac5, Hdac6, Hdac7, Hdac8, Hdac9, Hdac10, Hdac11

D

Day 28 immunized-SP

□ DMSO
▨ TSA

Gene expression relative to *Gapdh*

Hdac1, Hdac2, Hdac3, Hdac4, Hdac5, Hdac6, Hdac7, Hdac8, Hdac9, Hdac10, Hdac11

Supplementary Fig. 5