## Supplementary Materials: Histone Deacetylases Enhance Ca<sup>2+</sup>-Activated K<sup>+</sup> Channel K<sub>Ca</sub>3.1 Expression in Murine Inflammatory CD4<sup>+</sup> T Cells

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In supplementary Figures, the following PCR primers for mouse clones were used for real-time PCR: PI3K-C2B (NM\_001099276, 2293–2422), 130 bp; PHPT-1 (NM\_029293, 69–189), 121 bp; MTMR-6 (NM\_144843, 722–832), 111 bp; TRIM-27 (NM\_009054, 1530–1650), 121 bp; PGAM5 (NM\_001163538, 341–460), 120 bp; HDAC4 (NM\_207225, 2833–2954), 122 bp; HDAC5 (NM\_001077696, 2741–2862), 122 bp; HDAC6 (NM\_010413, 3231–3351), 121 bp; HDAC8 (NM\_027382, 969–1069), 101 bp; HDAC9 (NM\_001271386, 1093–1212/1960–2080), 120/121 bp; HDAC10 (NM\_199198, 1702–1822), 121 bp; HDAC11 (NM\_144919, 531–652), 122 bp; IFN- $\gamma$  (NM\_008337, 222–323), 102 bp; IL-17A (NM\_010552, 165–277), 113 bp; Kv1.3 (NM\_008418, 902–1063), 160 bp; K<sub>2</sub>P5.1 (NM\_001650, 1560–1680), 121 bp.



**Figure S1.** Gene expression of K<sub>Ca</sub>3.1 function-modifying molecules, excluding NDPK-B and inflammatory cytokines, in the splenic CD4<sup>+</sup> T cells of normal and IBD model mice. (**A**–**E**): Real-time PCR assay for PI3K-C2B (**A**), PHPT-1 (**B**), MTMR6 (**C**), PGAM5 (**D**), TRIM-27 (**E**), IFN- $\gamma$  (**F**), and IL-17A (**G**) in the splenic CD4<sup>+</sup> T cells of 'normal' and 'IBD' model mice (*n* = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM. \*\*: *p* < 0.01 vs. normal mice.



**Figure S2.** Gene expression of HDAC isoforms (HDAC4-6 and HDAC8-11) in splenic CD4<sup>+</sup> T cells of normal and IBD model mice. A-G: Real-time PCR assay for HDAC4 (**A**), HDAC5 (**B**), HDAC6 (**C**), HDAC8 (**D**), HDAC9 (**E**), HDAC10 (**F**), and HDAC11 (**G**) in the splenic CD4<sup>+</sup> T cells of "normal" and "IBD" model mice (n = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM.



**Figure S3.** No significant changes in expression levels of K<sub>Ca</sub>3.1, HDAC2, and HDAC3 transcripts by the concanavalin A (Con A) treatment for 48 h in normal mouse thymocytes. (**A–C**): Real-time PCR assay for K<sub>Ca</sub>3.1 (**A**), HDAC2 (**B**), and HDAC3 (**C**) in 5  $\mu$ g/mL Con A-treated mouse thymocytes for 0 and 48 h (*n* = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM.



**Figure S4.** Effects of HDACis on the gene expression of K<sub>Ca</sub>3.1 function-modifying molecules in splenic CD4<sup>+</sup> T cells of IBD model mice. A-E: Real-time PCR assay for PI3K-C2B (**A**), PHPT-1 (**B**), MTMR6 (**C**), PGAM5 (**D**), and TRIM-27 (**E**) in "vehicle"-, 1  $\mu$ M "vorinostat"-, 30 nM AATB ("AATB<sup>how</sup>")-, 300 nM AATB ("AATB<sup>high</sup>")-, and 1  $\mu$ M "T247"-treated splenic CD4<sup>+</sup> T cells of IBD model mice (*n* = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM.



**Figure S5.** Effects of the treatment with HDACis on the gene expression of Kv1.3 and K<sub>2P</sub>5.1 in splenic CD4<sup>+</sup> T cells of IBD model mice. A-D: Real-time PCR assay for Kv1.3 (**A**,**B**) and K<sub>2P</sub>5.1 (**C**,**D**) in "vehicle"-, 1  $\mu$ M "vorinostat" (**A**,**C**)-, 30 nM AATB ("AATB<sup>low</sup>") (**B**,**D**)-, 300 nM AATB ("AATB<sup>high</sup>") (**B**,**D**)-, and 1  $\mu$ M "T247" (**B**,**D**)-treated CD4<sup>+</sup> T cells (*n* = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM.



**Figure S6.** Gene expression of K<sub>Ca</sub>3.1, HDAC2, and HDAC3 in splenic CD4<sup>+</sup>CD25<sup>+</sup> T cells of normal and IBD model mice. A-C: Real-time PCR assay for K<sub>Ca</sub>3.1 (**A**), HDAC2 (**B**), and HDAC3 (**C**) in the splenic CD4<sup>+</sup>CD25<sup>+</sup> T cells of "normal" and "IBD" model mice (n = 4 for each). Expression levels were expressed as a ratio to ACTB. Results are expressed as means ± SEM.