

## [Supplement]

# The alleviation of gut microbiota-induced depression and colitis in mice by anti-inflammatory probiotics NK151, NK173, and NK175

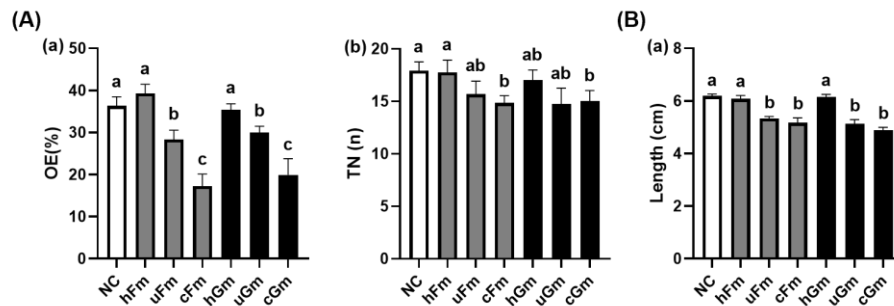


Figure S1. iFm (uFm and cFm) and iGm (uGm and cGm) caused depression-like behaviors and colitis in mice. (A) Effects on depression-like behaviors in the EMPT (a) and LD TT (b). (B) Effects on the colon shortening (a). Data values are as mean  $\pm$  SEM ( $n = 10$ ). Means with same letters are not significantly different ( $p < 0.05$ ).

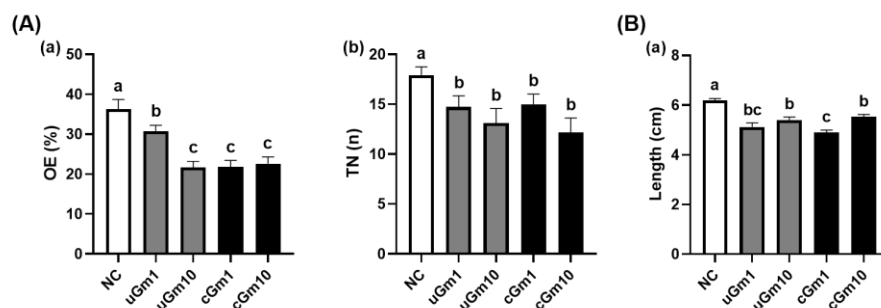


Figure S2. Effects of iGm1 and iGm10 on the occurrence of depression and colitis in mice. (A) Effects on depression-like behaviors in the EMPT (a) and LD TT (b). (B) Effects on the colon length (a). Data values are as mean  $\pm$  SEM ( $n = 8$ ). Means with same letters are not significantly different ( $p < 0.05$ ).

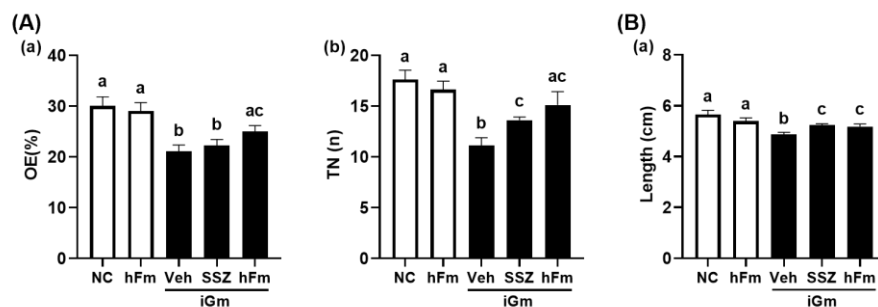


Figure S3. Effects of sulfasalazine and hFm on iGm-induced depression-like behaviors and colitis in mice. (A) Effects on depression-like behaviors in the EMPT (a) and LDTT (b). (B) Effects on the colon shortening (a). Data values are as mean  $\pm$  SEM ( $n = 8$ ). Means with same letters are not significantly different ( $p < 0.05$ ).

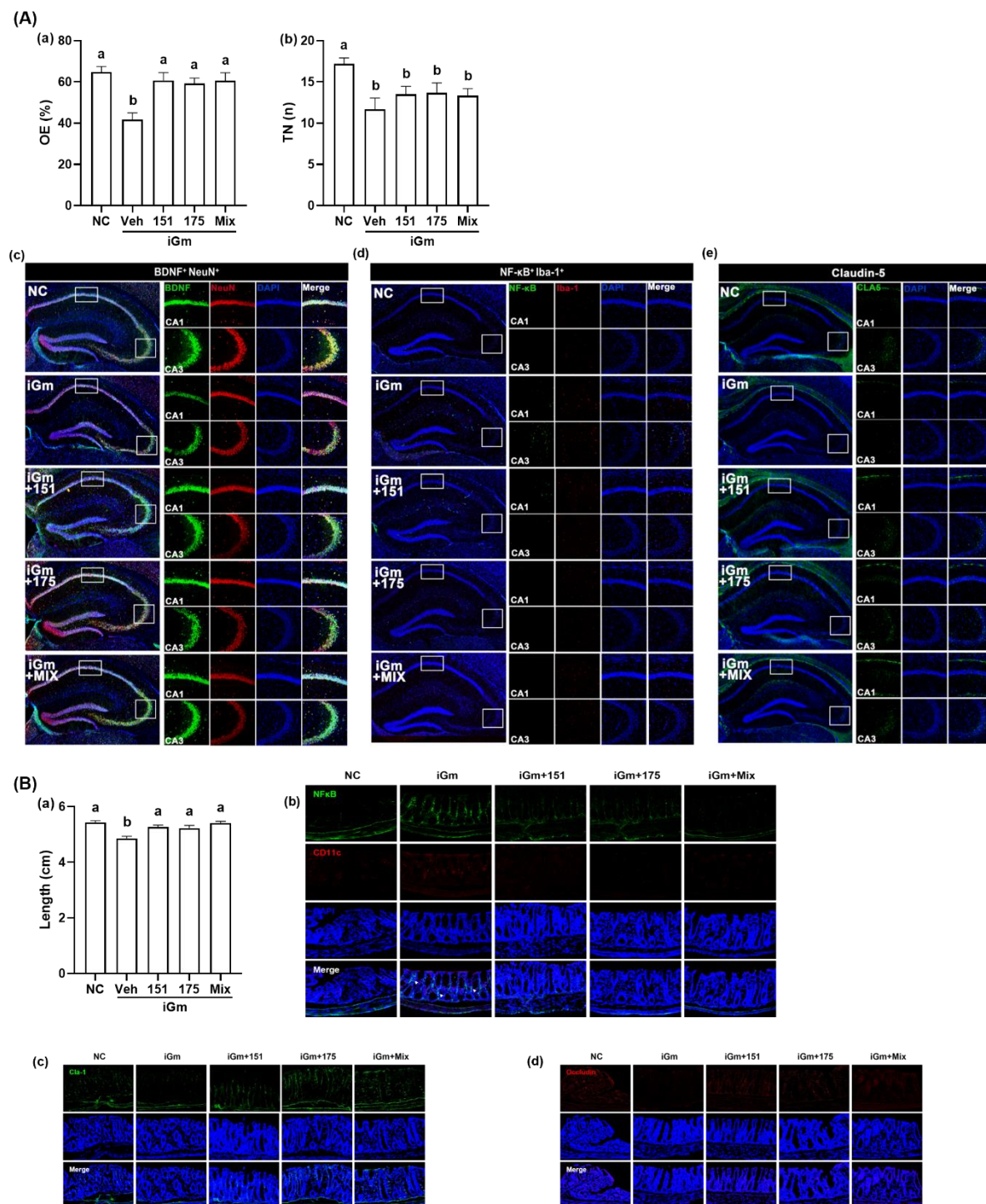


Figure S4. Effects of NK151 and NK175 on iGm-induced depression-like behaviors and colitis in mice. (A) Effects on depression-like behaviors in the EMPT (a) and LDTT (b) and BDNF<sup>+</sup>NeuN<sup>+</sup> (c) and NF- $\kappa$ B<sup>+</sup>Iba1<sup>+</sup> (d), and claudin-5<sup>+</sup> (e) cell populations in the hippocampus. (B) Effects on colon shortening (a), NF- $\kappa$ B<sup>+</sup>CD11c<sup>+</sup> (b), claudin-1<sup>+</sup> (c), and occludin<sup>+</sup> cell populations (d) in the colon. Data values are as

mean  $\pm$  SEM ( $n = 8$ ). Means with same letters are not significantly different ( $p < 0.05$ ).

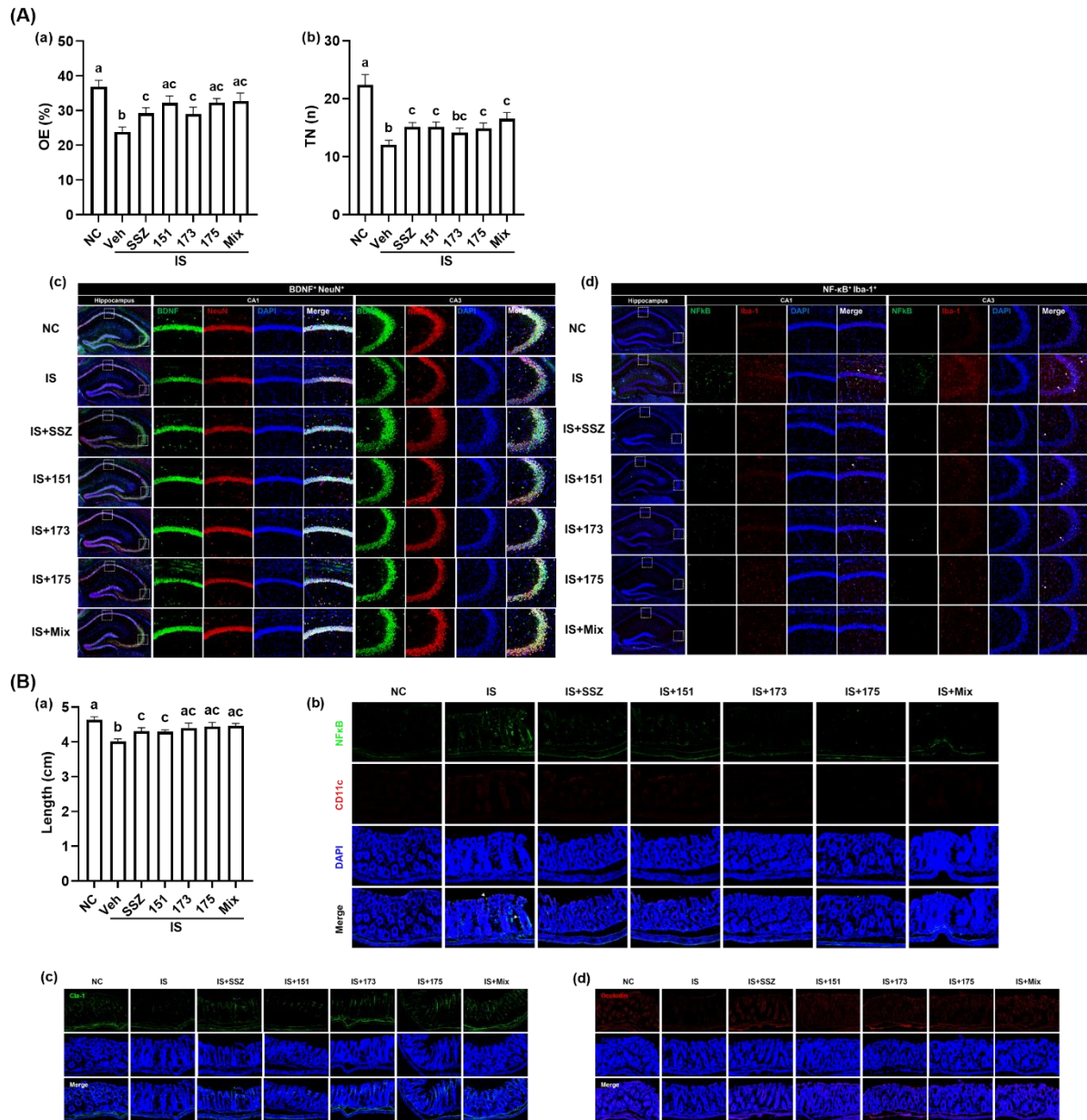


Figure S5. Effects of NK151, NK173, and NK175 on IS-induced depression-like behaviors and colitis in mice. (A) Effects on depression-like behaviors in the EMPT (a) and LDTT (b) and BDNF<sup>+</sup>NeuN<sup>+</sup> (c) and NF- $\kappa$ B<sup>+</sup>Iba1<sup>+</sup> cell populations (d) in the hippocampus. (B) Effects on colon shortening (a), NF- $\kappa$ B<sup>+</sup>CD11c<sup>+</sup> (b), claudin-1<sup>+</sup> (c), and occludin<sup>+</sup> cell populations (d) in the colon. Data values are as mean  $\pm$  SEM ( $n = 8$ ). Means with same letters are not significantly different ( $p < 0.05$ ).