



**Fig. S1. Western diet and tributyrin did not affect caspase-1 activation in the brain, pancreas or intestine.**

(A-B) Representative *ex vivo* IVIS images and bioluminescence quantification of brain tissue from normal chow (NC), Western diet (WD), and WD-fed tributyrin treated male and female mice. (C-D) Representative *ex vivo* IVIS images and bioluminescence quantification of pancreas tissue from NC, WD, and WD-fed tributyrin treated male and female mice. (E-F) Representative *ex vivo* IVIS images and bioluminescence quantification of the intestinal tissue, including mesenteric lymph nodes (MLN), from NC, WD, and WD-fed tributyrin treated male and female mice. One-way ANOVA and Tukey's post-hoc. All values represent mean +/-SEM. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ,  $n = 4-8$  mice/group for males and females.