***Supplementary Figures***

**Figure S1.** **LSN2478185 and LY2495655 neutralize 1nM myostatin in an SBE luciferase assay in HEK-293 cells.** Data shown represent the means ± SEM for percent inhibition at the indicated antibody concentrations (N=3 replicates per concentration). IC50’s ranged from 0.4-1.3 nM and were reproducible from a minimum of 5 independent experiments.

**Figure S2.** **LSN2478185 increases body weight and muscle mass in non-tumor-bearing mice in the presence of gemcitabine.** (A) Weekly food consumed per group during first week (N=8/group).(B) Body weight and (C) muscle weight data shown represent the mean ± SEM with either a control IgG or LSN2478185 in the presence or absence of gemcitabine (N=8/group). (D) Individual values are shown for % Neutrophils obtained by a blood smear obtained on day 13 of the study (N=8/group). \*, P < 0.005 and #, P < 0.0001 versus PBS control IgG.

**Figure S3. LSN2478185 reduces the loss of skeletal muscle mass under conditions of caloric restriction.** Data shown represent the mean ± S.E.M. for (A) body weight, (B) qNMR whole body fat mass, (C) qNMR whole body lean mass, (D) muscle weights and (E) muscle weights normalized to body weight from BALB/c mice under either an ad libitum or caloric restricted (CR) diet and treated with either a control IgG or LSN2478185 at 10 mg/kg once weekly for 4 weeks (N=10 mice/group). An asterisk indicates significance relative to the control IgG ad lib group (p < 0.05).

**Figure S4.** **LY2495655 attenuates loss of muscle weight normalized to brain weight but has no effect on brain or heart weight in C26 tumor bearing mice in the presence of gemcitabine.** (A-C) Data shown represent the mean ± SEM for (A) brain weight, (B) muscle weight normalized to brain weight or (C) heart weight in either mice with no tumors or C26 tumor bearing mice treated with a control IgG or LY2495655 at 10 mg/kg weekly with gemcitabine.

**Figure S5.** **Loss of body weight, muscle mass and strength in the PC3 tumor model.** Data shown represent the mean ± SEM for (A) PC3 tumor volume and (B) body weight, or individual values for (C) qNMR whole body lean mass and (D) grip strength for SCID mice inoculated with PC3 tumor cells (N=12 mice/group). Solid horizontal bars represent the mean of each group. (E) A regression plot showing grip strength and qNMR lean mass in individual mice with (N=10) and without PC3 tumor cells (N=12). An asterisk represents significance relative to the no tumor group (P < 0.05).

**Figure S6.** **LY2495655 attenuates the loss of muscle weight normalized to brain weight in the PC3 tumor model.** Data shown represent the mean ± SEM for (A) brain weight and (B) muscle weight normalized to brain weight for SCID mice inoculated with (N=14 mice/group) or without (N=8 mice/group) PC3 tumor cells and treated with either a control IgG or LY2495655 at 10 mg/kg once weekly for 7 weeks.