

Supporting Information

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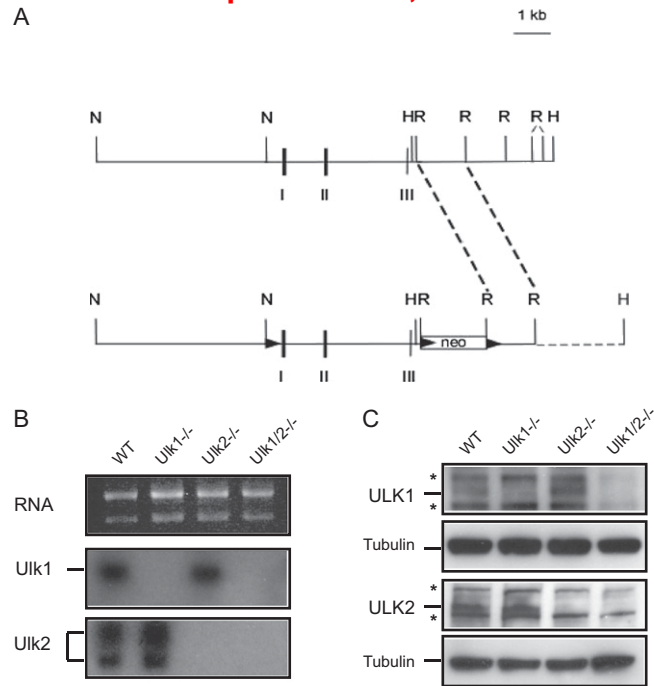


Fig. S1. Generation of KO mice and mouse embryonic fibroblasts (MEFs). (A) Strategy for targeting the uncoordinated family member (unc)-51-like kinase 2 (*ulk2*) locus. (Upper) Genomic organization of the *ulk2* locus. (Lower) The targeting construct generated when a neomycin resistance cassette (*neo*) and the 4.1-kb NotI-EcoRI fragment including exons I–III was flanked by loxP sites. Restriction sites shown are NotI (N), Hind III (H), and EcoRI (R). (B) Northern blot analysis of WT, uncoordinated family member (unc)-51-like kinase 1 KO (*ulk1*^{-/-}), *ulk2*^{-/-}, and double-KO *ulk1*^{-/-}*ulk2*^{-/-} MEFs. The MEFs were generated from offspring of *Ella cre-ulk1*^{+/fl} and *Ella cre-ulk2*^{+/fl} mice. (Upper) Levels of ribosomal RNA on an ethidium bromide-stained agarose gel. (Lower) Northern blots were probed with cDNA probes for *ulk1* and *ulk2*. (C) Western blot analysis of WT, *ulk1*^{-/-}, *ulk2*^{-/-}, and *ulk1*^{-/-}*ulk2*^{-/-} MEFs probed with antibodies for ULK1, ULK2, and tubulin. Asterisks indicate nonspecific bands; lines indicate size of ULK1 and ULK2 proteins.

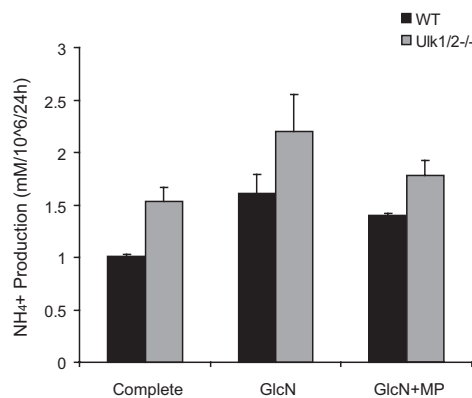


Fig. S2. Ammonia production following treatment with glucosamine and methyl pyruvate. WT and *Ulk1/2*^{-/-} MEFs were cultured in complete medium with 10 mM glucosamine (GlcN) or 10 mM glucosamine (GlcN) and 20 mM methylpyruvate (MP) for 24 hr respectively. Ammonia levels were measured in supernatants of cell cultures with the Nova Biomedical Flex Analyzer. Data are presented as the mean and standard deviation (mean ± SD) from two independent experiments with three replicates for each experimental group.