Supporting Information for:

Novologue Therapy Requires Heat Shock Protein 70 and Thioredoxin Interacting Protein to Improve Mitochondrial Bioenergetics and Decrease Mitophagy in Diabetic Sensory Neurons

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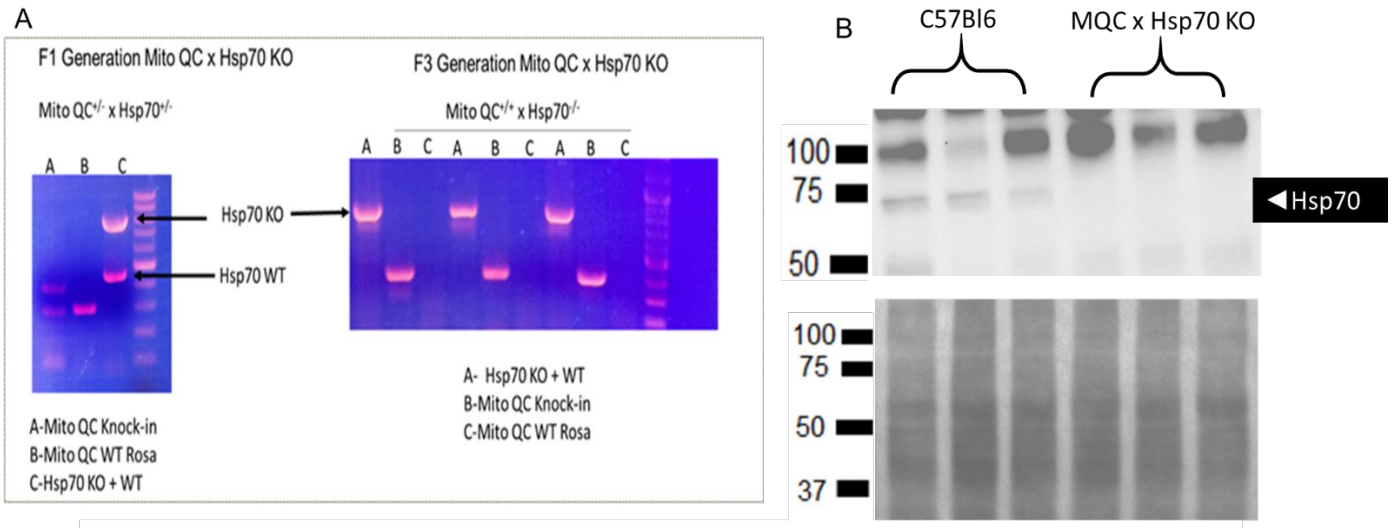
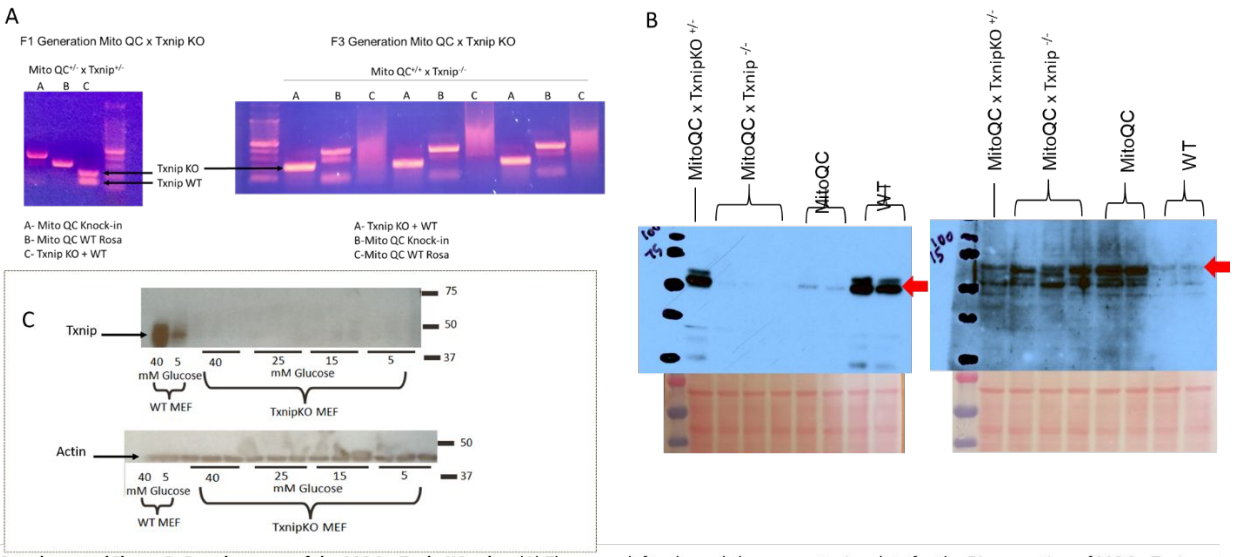
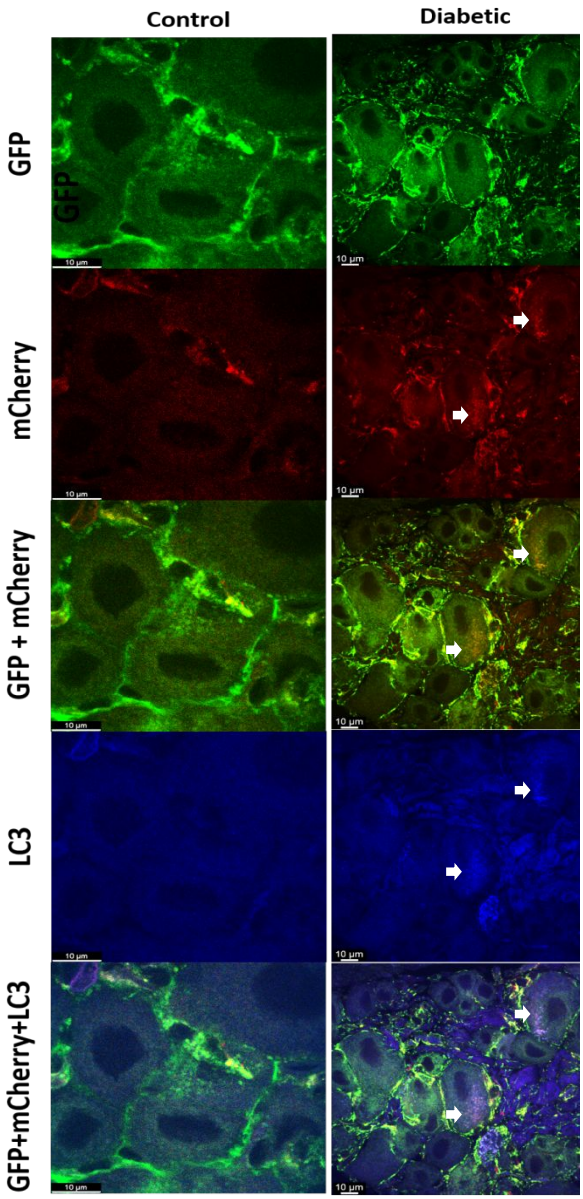


Supplemental Figure 1- Development of MQC x Hsp70 KO mice. (A) The left gel panel shows genotyping data for the F1 generation of MQC x Hsp70 KO mouse which was heterozygous for the MQC transgene, the WT Rosa allele and WT and KO alleles for Hsp70. The right gel panel shows offspring from the F3 generation that are homozygous for the MQC knock-in and Hsp70 KO genes. (B) Lack of Hsp70 expression (arrow) expression in kidney of MQC x Hsp70 KO mice. Bottom gel shows Ponceau S staining.



Supplemental Figure 2- Development of the MQC x Txnip KO mice. (A) The upper left gel panel shows genotyping data for the F1 generation of MQC x Txnip KO mice which were heterozygous for the MQC transgene, the WT Rosa allele and WT and KO alleles for Txnip. The right gel panel shows offspring from the F3 generation that are homozygous for the MQC knock-in and Txnip KO genes. (B) Lack of Txnip expression (left gel, arrow) and presence of GFP (Right gel, arrow) expression in MQC x Txnip KO mice. Bottom gels show ponceau staining. (C) The upper immunoblot shows the induction of Txnip in WT MEFs by 40 mM glucose. Txnip was not induced by glucose in MEFs from the MQC x Txnip KO mice. Actin was used as a loading control.



Supplemental Figure 3. Increased red puncta in diabetic sensory neurons are an indicator of mitophagy. Control neurons had a low basal level of LC3 that was increased in diabetic neurons. Red puncta co-localized with LC3 staining to validate that mitophagy had occurred. Arrows indicate representative puncta.