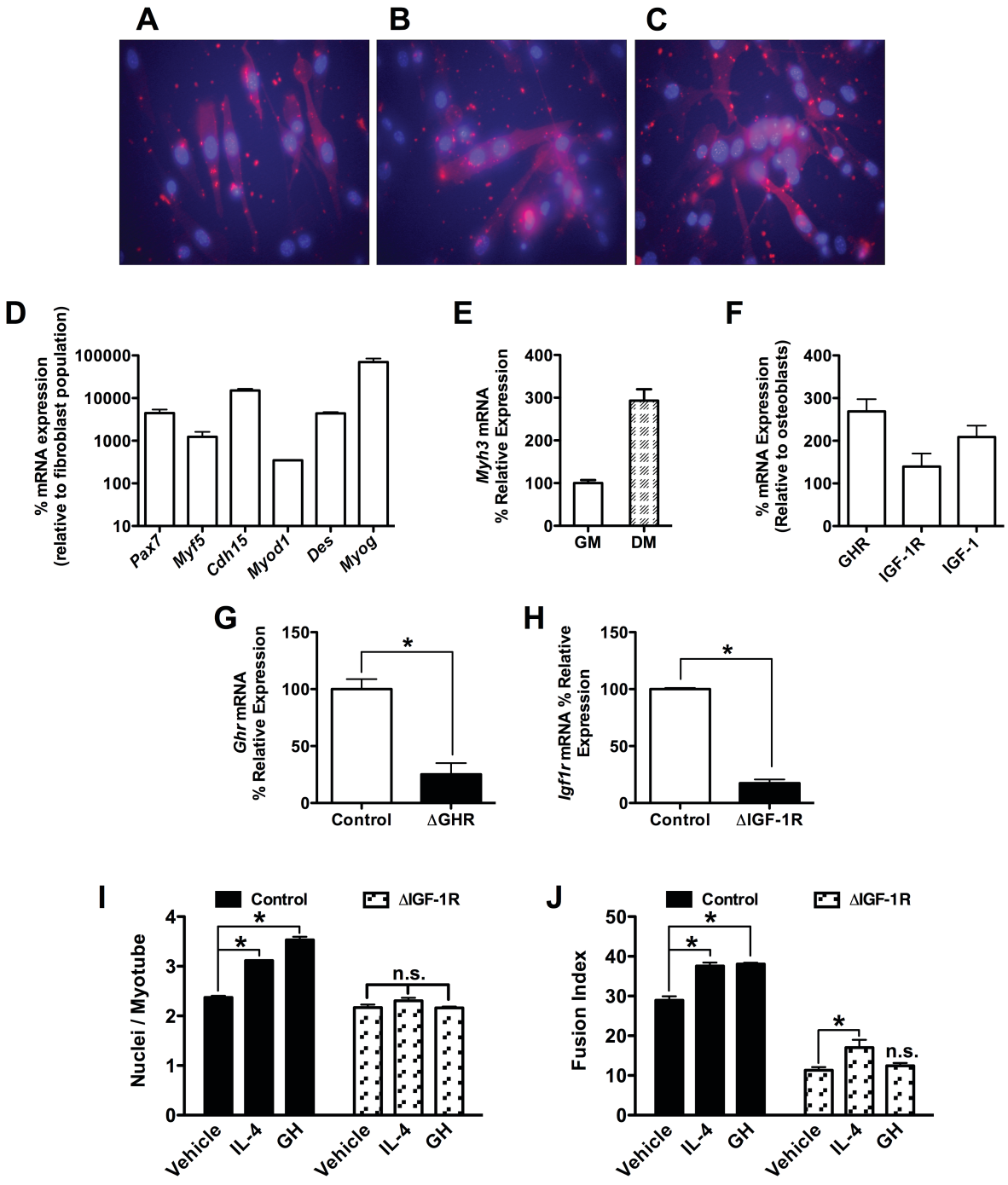
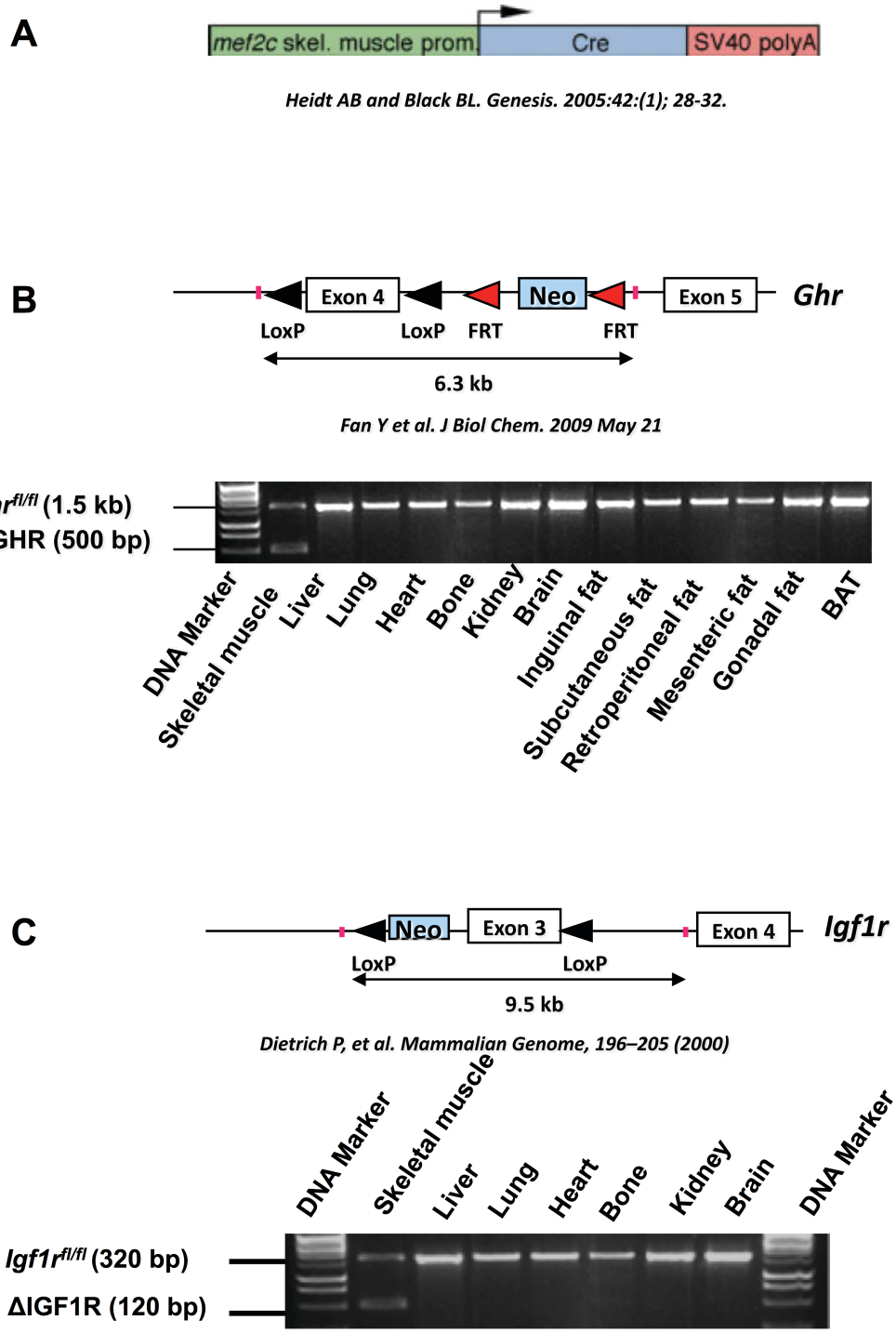
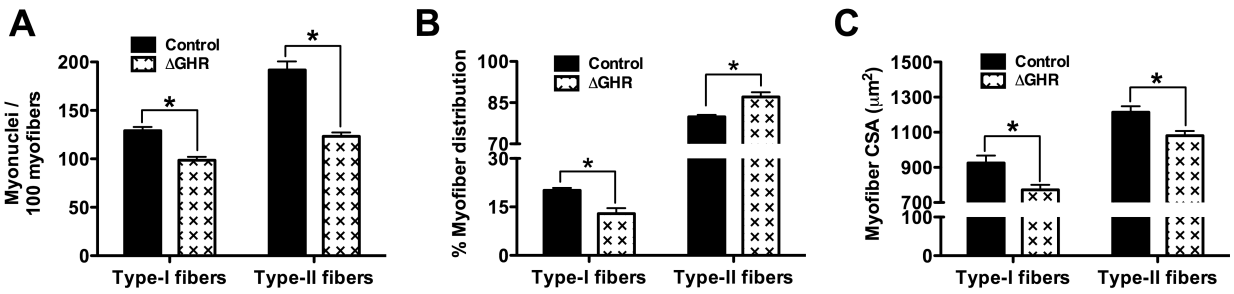


Supplemental Figure 1: Validation of in vitro primary myoblast system and in vitro adenoviral Cre-mediated gene deletion. Myoblasts were isolated from the gastrocnemius muscles of wild type mice and induced to differentiate for 48 hours. Myoblasts stained with DiI and Dapi at **(A)** 0 hours, **(B)** 24 hours or **(C)** 48 hours of differentiation. **(D)** Real-time PCR was performed using primers for the indicated muscle-specific genes on mRNA harvested from parallel cultures of myoblasts at 0 hours. **(E)** Real-time PCR was performed on mRNA harvested from parallel 48 hour cultures using primers for *Myh3*, and **(F)** components of the GH/IGF-1 axis. **(G and H)** All in vitro studies were performed following confirmation of receptor deletion, as described in the Methods, which was routinely >80%. **(I and J)** Myoblasts carrying floxed IGF-1R alleles were infected as above (adenoGFP – control and adenoCre – ΔIGF-1R) and induced to differentiate in media supplemented with vehicle, IL-4 or GH for 48 hours before assessment of number of nuclei per myotube **(I)** or fusion index **(J)**. All data shown is representative of at least three separate experiments performed from separate muscle cell preparations. Error bars indicate S.E.M. **p<0.05*



Supplemental Figure 2: Cre-LoxP strategy for muscle-targeted deletion of GHR and IGF-1R. (A) Schematic diagram of the transgenic Cre mouse under the control of *Mef2c* skeletal muscle promoter. **(B)** Schematic diagram of floxed *Ghr* allele and allele specific PCR performed on the DNA of tissues harvested from ΔGHR mice indicating deletion is restricted to skeletal muscle. **(C)** Schematic diagram of floxed *Igf1r* allele and allele specific PCR performed on the DNA of tissues harvested from ΔIGF-1R mice indicating deletion is restricted to skeletal muscle. Allele specific PCR blots are representative of 3 control and 3 knockout animals tested.



Supplemental Figure 3: Histomorphometric analysis of gastrocnemius muscles from 26 week old control and ΔGHR mice. **(A)** Myonuclei/100 myofibers, **(B)** percent myofiber distribution and **(C)** myofiber diameter (CSA). (n=6 for control and ΔGHR). Error bars indicate S.E.M. **p<0.05*