SUPPLEMENTAL EXPERIMENTAL PROCEDURES

Culture of murine ES cells. Mouse embryonic stem (ES) cells were cultured on irradiated MEFs in "Knockout" DMEM/ 15% fetal bovine serum (FBS), penicillin/streptomycin (Gibco), 2 mM glutamine, 0.1 mM nonessential amino acids (Gibco), 0.1 mM β-mercaptoethanol, and 1000 U/ml LIF (Millipore

Growth Curves: For growth analysis 1×10^5 myoblasts or FAPs were plated on 35mm tissue culture plates and induced with 0, 12.5, 25 or 50 ng/ml dox. Every four days cells were passaged, cell numbers were counted from triplicate wells of each passage, and 1×10^5 cells were replated in the same conditions. Paired myoblast and fibroblast samples from 3 iDux4(2.7) and 3 WT littermates were used.

Isolation of satellite cells: Hind limb muscles were dissected, chopped into pieces parallel to the muscle fibers and digested in 0.2% collagenase type II (Gibco 17101-015) at 37°C for 75 minutes and washed two times. To remove satellite cells from the muscle fibers, the sample was incubated with 0.01 % collagenase II and 0.15 % dispase (Gibco, 17105-041) at 37°C for 30 minutes, passed through syringe with 16-18 gage needles, strained through a 40 μm cell strainer(BD Falcon) and washed two times. The sample was resuspended in FACS staining medium: PBS (HyClone, SH30256.01) containing 2% FBS (Equitech) and cells were sorted on a Cytomation MoFlo cytometer (Dako), either for ZsGreen fluorescence, or in an independent experiment that gave similar results, for the CD31– CD45– VCAM+ integrin-α7 profile.