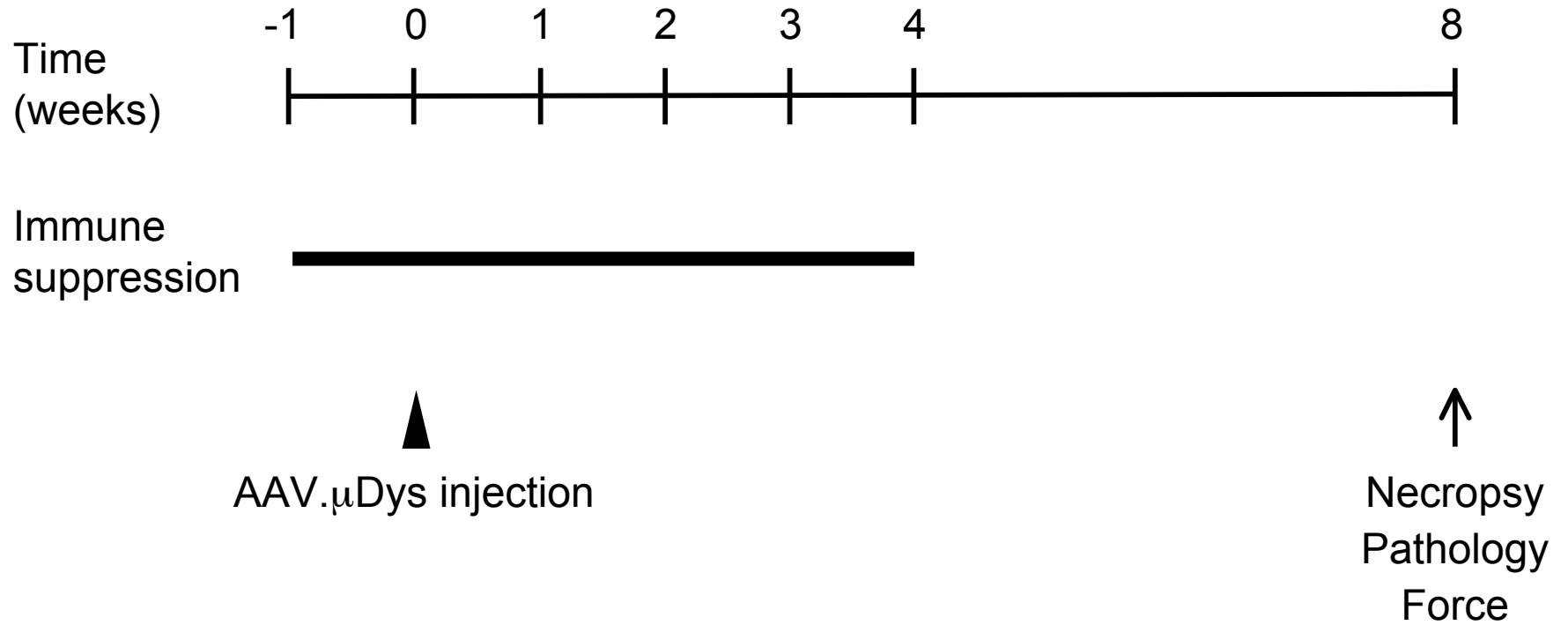
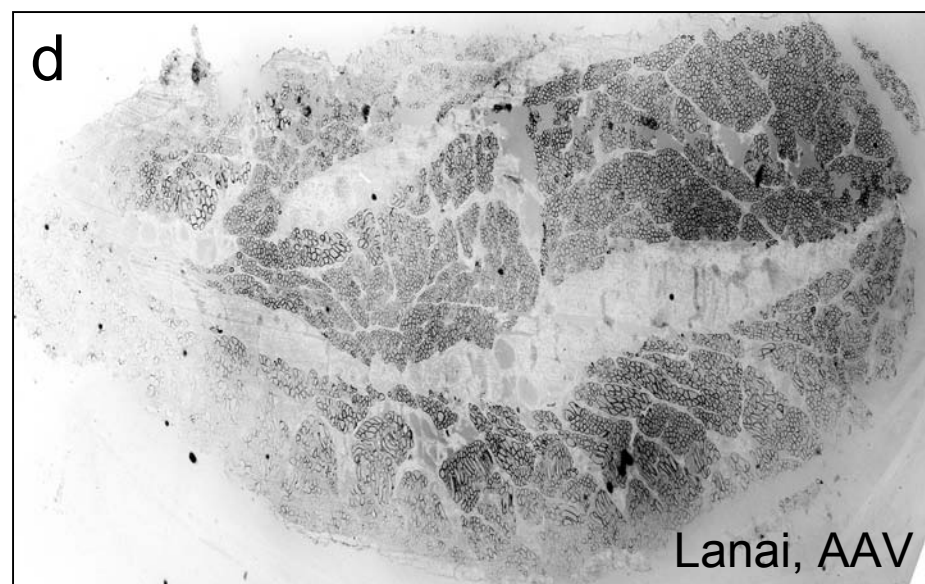
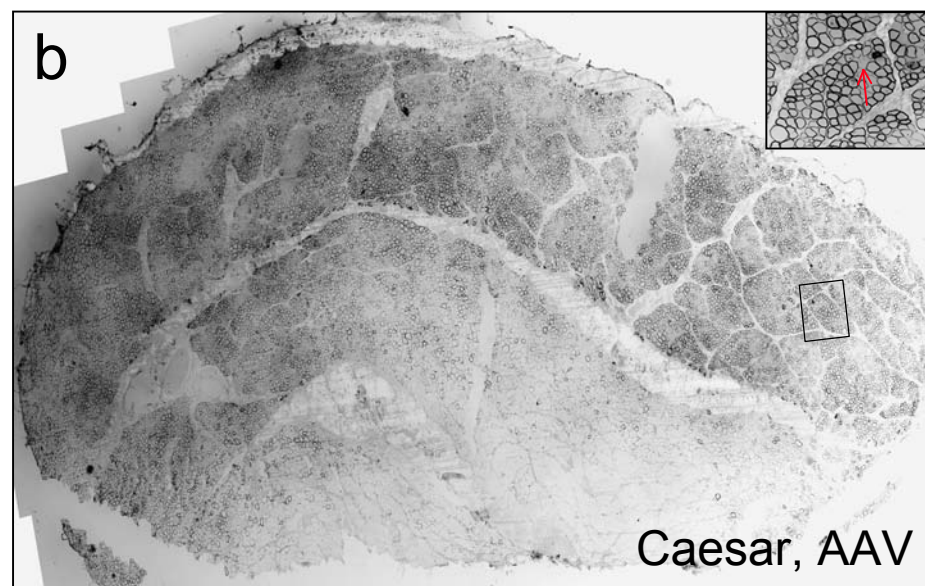
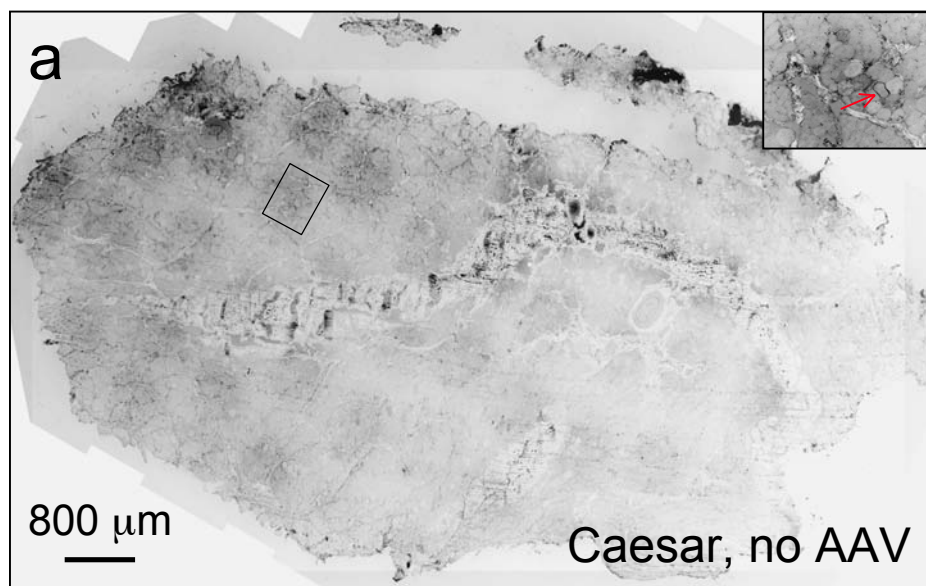


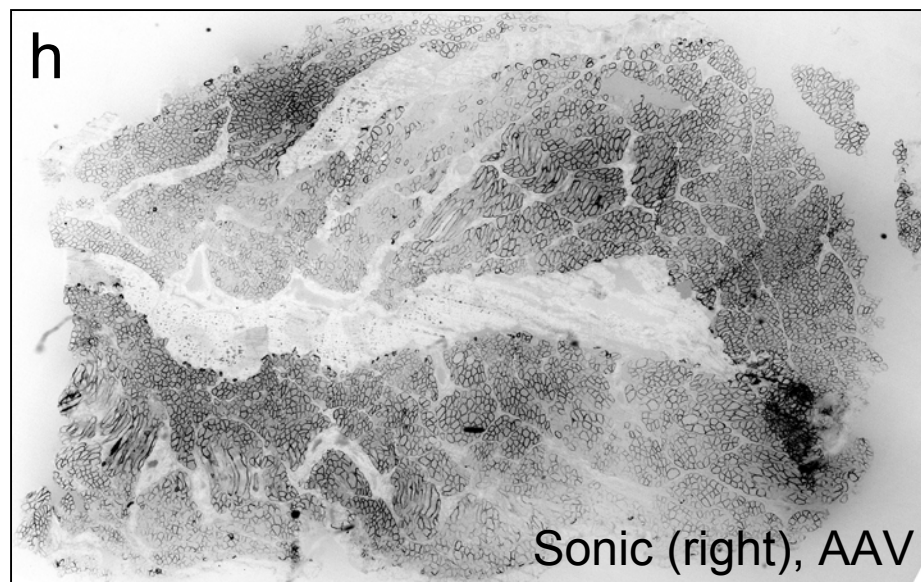
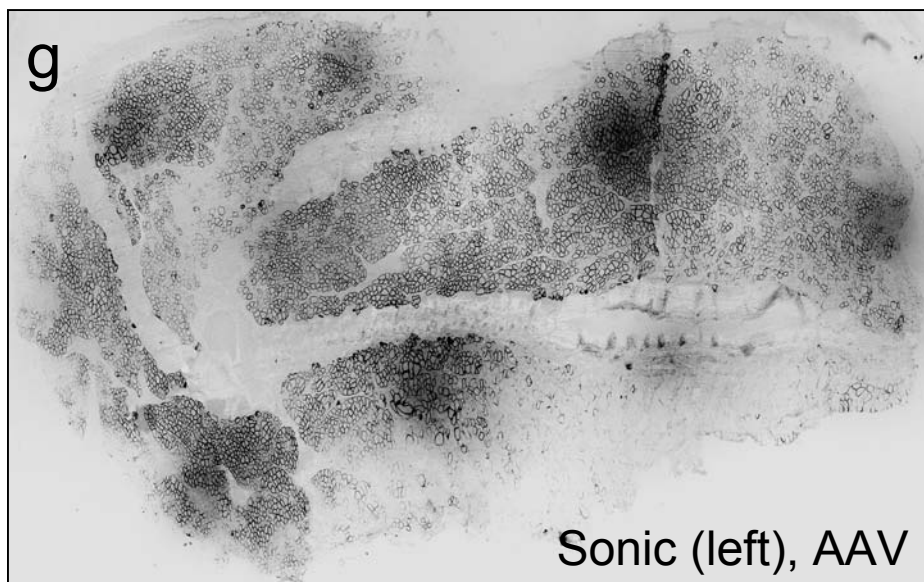
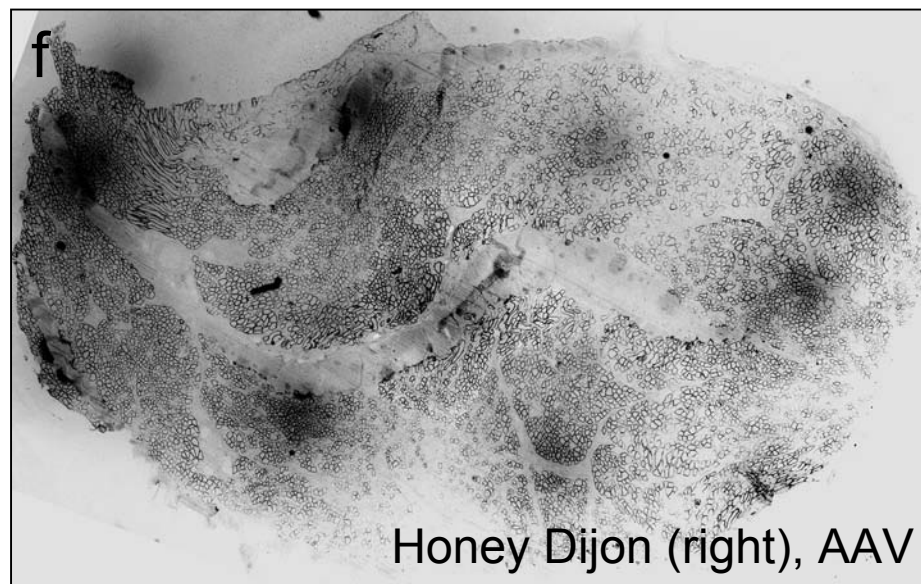
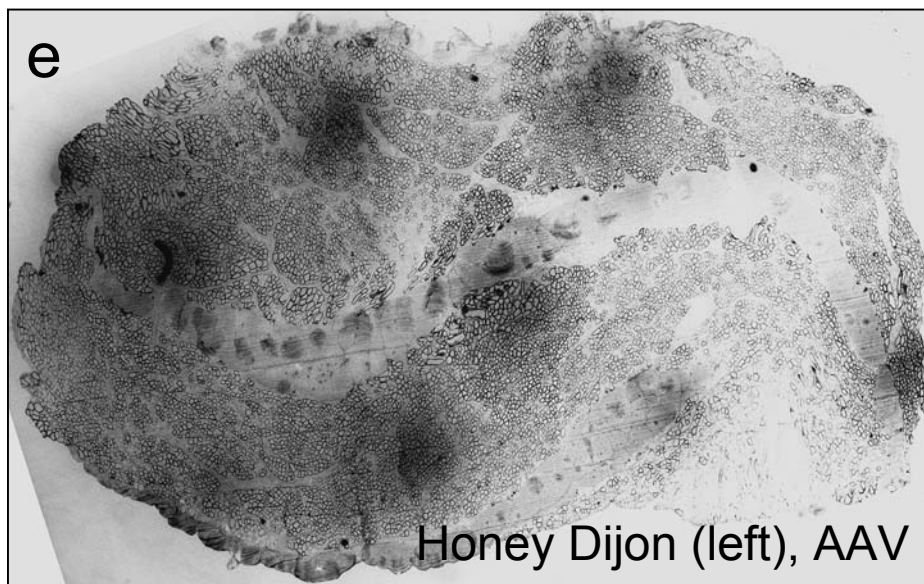
**Supplementary Figure 1. Schematic outline of the experimental timeline.**

**Supplementary Figure 2. AAV gene transfer results in widespread micro-dystrophin expression in dystrophic dog ECU muscle.** AAV was delivered to eight ECU muscles of six affected dogs (Table 2). Immunofluorescence staining was performed at two months after gene transfer with a monoclonal antibody against the Dys-2 epitope located at the C-terminal end of the microgene. Dog name and AAV injection information are provided on the right bottom corner in each panel. **a**, A representative montage photomicrograph from the untreated ECU muscle of Caesar, a dystrophic dog. Insert, high power magnification of the boxed area in the full-view image. Asterisk, a revertant myofiber. **b to h**, Representative montage full-view photomicrographs of the AAV injected ECU muscles from Caesar (b), Jack (c), Lanai (d), Honey Dijon left and right ECU (e and f), and Sonic left and right ECU (g and h). Insert in panel b, high power magnification of the boxed area in the full-view image. Arrow, a myofiber that was not transduced by the AAV micro-dystrophin vector.

**Supplementary Figure 3. Micro-dystrophin gene therapy reduces macrophage infiltration in dystrophic dog muscle.** Representative macrophage immunostaining photomicrographs showing macrophage infiltration. Normal dog ECU muscle had minimal macrophage infiltration. Dystrophic dog ECU muscle was invaded with abundant macrophages. AAV micro-dystrophin therapy reduced macrophage infiltration in the ECU muscle.







Immunohistochemical staining for macrophage

Dystrophic

Normal

Untreated

AAV  $\mu$ Dys

