

Fig. S1. SMN siRNA Validation

A) Representative images of immunoblots detected with anti-SMN antibody and anti-β-actin antibody, for NSC-34 cell lysates, transfected with either negative control (NC) or SMN (siSmn) siRNA. (B) The quantification of A. N = 5, mean \pm S.E.M. ****P* < 0.001, Dunnett's test vs NC. The phenotype can be produced by these two independent siRNAs, and the presented results are representative examples.



Fig. S2. TFEB siRNA Validation

(A) Representative images of immunoblots detected with anti-TFEB antibody and anti- β -actin antibody, in NSC-34 cells transfected with either negative control (NC) or TFEB (siTfeb) siRNA. (B) The quantification of A. N = 5, mean \pm S.E.M. ***P < 0.001, Dunnett's test vs NC. (C) siRNA-transfected NSC-34 cells were immunostained with anti-TFEB antibody (green) and Hoechst 33342 (Nuclei, blue). Arrowheads indicate TFEB-positive foci. Bar = 20 μ m.



Fig. S3. DQ-Red BSA Assay in SMN KD Cells

(A) Representative images of Figure 3F. NSC-34 cells were transfected with either negative control (NC) or SMN (SMN KD) siRNA, for 72 h, then incubated with DQ-Red BSA (red) and Hoechst 33342 (blue), followed by live imaging. Bar = $100 \mu m$.