# Guide Cells Support Muscle Regeneration and Affect Neuro-Muscular Junction Organization

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## Supplementary Figure Legends

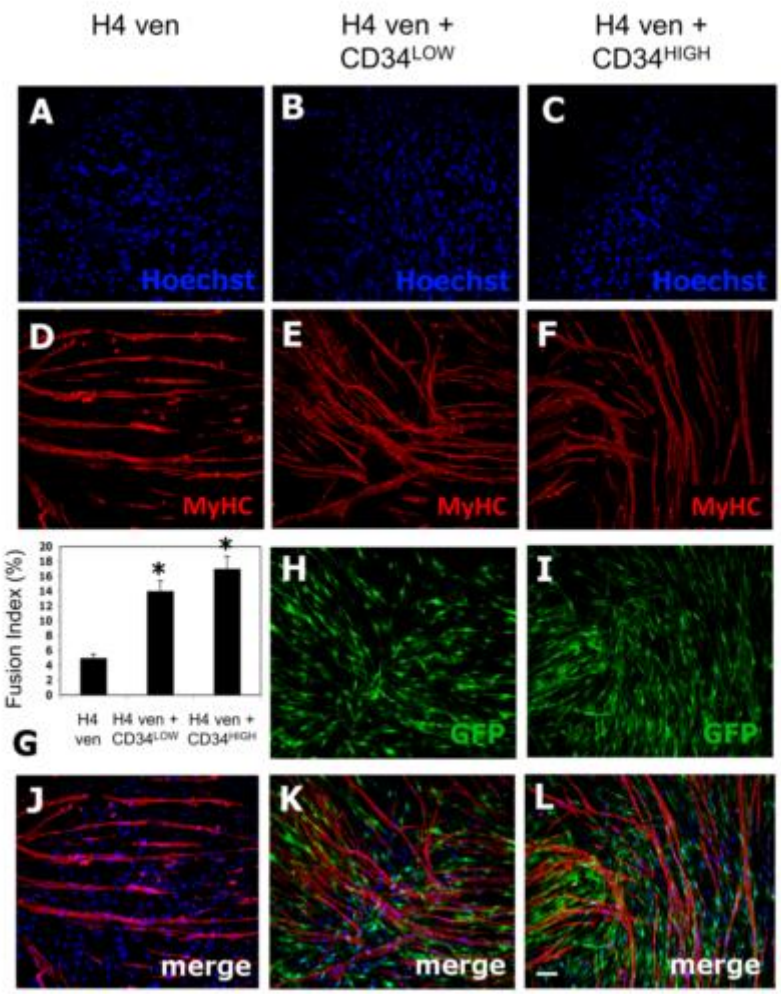


**Figure S1:** Myogenic differentiation (5 days) of H4ven mesoangioblasts co-cultured with guide cells. (A-C), Hoechst nuclei staining of H4ven (A), H4ven co-cultured with $CD34^{LOW}$ (B), or with and $CD34^{HIGH}$ cells (C). (D-F), Myosin Heavy Chain (MyHC) immunofluorescence analysis on H4ven (D), H4ven co-cultured with $CD34^{LOW}$ (E) or $CD34^{HIGH}$ cells (F). (G), fusion index (see results) of H4ven, H4ven co-cultured with $CD34^{LOW}$ or $CD34^{HIGH}$ cells; *$p<0.03$. (H, I), GFP immunofluorescence analysis on H4ven co-cultured with $CD34^{LOW}$ (H) or $CD34^{HIGH}$ cells (I). (J) merge of A and D panels. (K) merge of B, E and H panels. (L) merge of panels C, F, I. Scale bar = 40 μm.

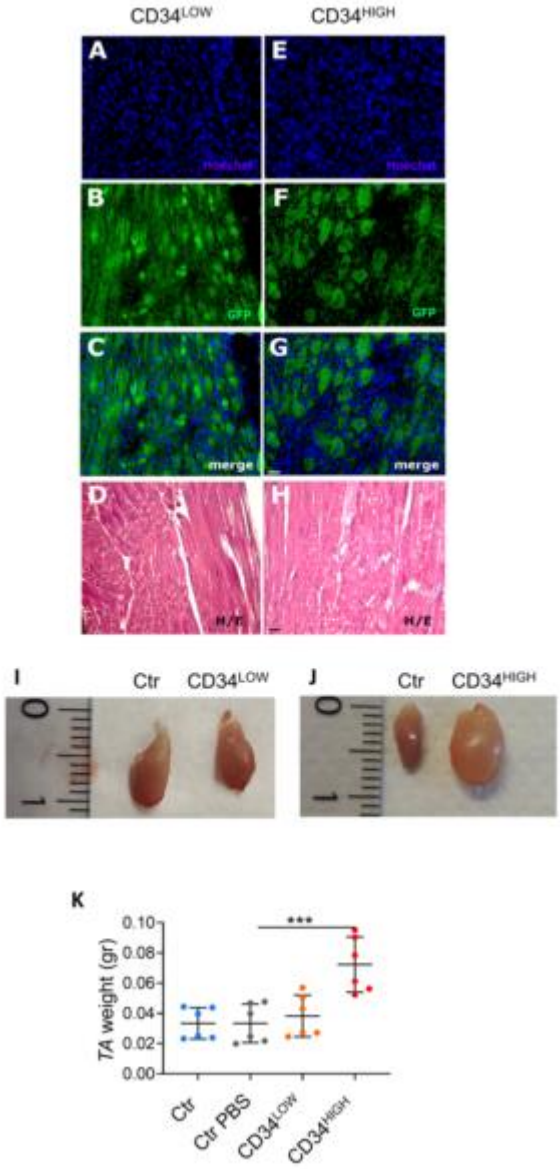


**Figure S2:** Cardiotoxin-injured *tibialis anterior* muscles injected with guide cells. (A, E), Hoechst staining of muscles injected with $CD34^{LOW}$ (A) and $CD34^{HIGH}$ cells (E). (B, F), GFP immunofluorescence in muscles injected with $CD34^{LOW}$ (B) and $CD34^{HIGH}$ cells (F). (C), merge of A, B panels; (G) merge of E, F panels. Scale bar in G for panels A-G, 50 µm. (D, H), hematoxylin and eosin (H/E) staining of muscles injected with $CD34^{LOW}$ (D) and $CD34^{HIGH}$ cells (H). Scale bar for panels D-H, 100 µm. (I, J) The images show CTX injured *tibialis anterior* muscles, 4-weeks after the injection of PBS (Ctr) or $CD34^{LOW}$ cells ($CD34^{LOW}$) and $CD34^{HIGH}$ cells ($CD34^{HIGH}$), respectively. (K) Weight (gr) of TA in un-injected mice (Ctr, blue dots), PBS injected mice (Ctr PBS, grey dots), $CD34^{LOW}$ cells injected mice ($CD34^{LOW}$, orange dots) and $CD34^{HIGH}$ cells injected mice ($CD34^{HIGH}$, red dots); N=6 per group, ***$p<0.001$.

## Supplementary Video Legends

**Video S1**: Time-lapse confocal microscopy of CD44, Sox2, and Ncam2 positive cells.

**Video S2**: Time-lapse confocal microscopy of CD44, Sox2, Ncam2 and $CD34^{LOW}$ positive cells.

**Video S3**: Time-lapse confocal microscopy of CD44, Sox2, Ncam2 and $CD34^{HIGH}$ positive cells.