Supplementary Data

Figure S1. RT-PCR analysis of *nrap*. Control 1-cell zebrafish embryos were injected with different amounts of *nrap* morpholinos targeting exon2-intron2 (ex2-in2) or exon3-intron3 (ex3-in3). RT-PCR analysis was performed on 3 dpf larval fish.

Figure S2. Transient *NRAP* overexpression results in reduced motor function in zebrafish. (A) Overexpression of *NRAP* mRNA in zebrafish. No phenotypic changes were observed in fish injected with 100ng of NRAP mRNA in comparison to the control. Larval fish injected with a higher dose of NRAP mRNA exhibited dorsal curvature and significantly reduced mobility in comparison to uninjected controls. Phenotypic analysis and quantification of motor function was performed in 34-69 zebrafish in each group. Each experiment was performed in triplicates using independent zebrafish clutches. Kruskal Wallis one-way analysis on variance on ranks was performed and pairwise multiple comparison procedures were done according to Dunn's method. Data are presented as mean ± s.d. *p<0.01; *n.s.*: non-significant.

Figure S3. NRAP is localized with actin in embryonic skeletal muscle in zebrafish. (A) Whole mount immunofluorescence of 2 dpf *mylz:NRAP-gfp* embryos with phalloidin and gfp antibodies. (B) Co-localization analysis of actin and GFP staining was performed with imageJ.

Table S1. KLHL41 interactions identified by yeast -two hybrid screening.