

Supplementary Figure 1

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zebrafish -----MANGAEDVFCRGTGQSDSDIWDDETALIKAYDKAVASSFKNALKGEDGA
frog -----MAGLEDGGEVLFRRGAGQSDSDIWDDETALIKAYDKAVSSFKRALKNEDCT
mouse ---MAMSGGGAGSEQEDTVLFRRTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDIC
rat --MAMSGGGGAGSEQEDTVLFRRTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDMC
human MAMSSGGSGGGVPEQEDSVLFRRTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDIC
macaque MAMSSGGSGGGVPEQEDSVLFRRTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDIC
cow ----MGGGGGFPPEPESVLFRRGTGESDSDVWDDTALIKAYDKAVASFKHALKNGDIS
dog ----MGGGGGLPEPESVLFRRGTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDIS
cat ---MAMGGGSGVPEQEDSVLFRRTGQSDSDIWDDETALIKAYDKAVASFKHALKNGDIS
chicken -----MAGRVLFRRTGQSDSDMWDDETALIKAYDKAVASFKNALKNGDCS
Drosophila -----MSDETNAAVWDDSLLVKTYDESIVGLAREALARRLAD
C.elegans -----MEVDDVWDDTELKMYDESLQEISKNE-----

zebrafish TPQEND--NPGKKRKNKKNKSRKRCNAAPDKEWQVGDSCYAFWSEEDG--NLYTATITSV
frog IGAEETEEKNPRTRKKNKKNKSRKRCNAAPLKKWRIGDTCNAVWSEEDG--NIYSATISSI
mouse ETPDKPKGTA--RRKPAKKNKSQKKNATPLKQWKVGDKCSAVWSEEDG--CIYPATITSI
rat ETSDKPKGTA--RRKPAKKNKQKKNATAPLKQWKAGDKCSAVWSEEDG--CVYPATITSV
human ETSGKPKTTP--KRKPAKKNKSQKKNATAASLQQWKVGDKCSAIWSEEDG--CIYPATIASI
macaque ETSGKPKTTP--KRKPAKKNKSQKKNATAAPLKQWKVGDKCSAIWSEEDG--CTYPATIASV
cow EASEKPKGTP--KRKSAN--NKSQRKNTTSPSKQWKVGDNCIAIWSEEDG--CIYPATIASI
dog EASDKPKGTP--KRKPAKKNKSQKKNATAALKQWKVGDKCSAVWSEEDG--CIYPATIASI
cat EASDKPKGTP--KRKPAKKNKSQKKNATAALKQWKVGDKCSAIWSEEDG--CVYPATIASI
chicken EPSDKQEQRAGVRRKKNKKNRNRNKSNAVPLKQWKVGDSCNAVWSEEDG--NVYPATIASI
Drosophila STNKREENAAAAEEEEEAGEISATGGATSPFPVSKVGDYARATYVDG---VDYEGAVVSI
C.elegans -----TSAKITSRKFKGEDGKMYTKVGGKCMAPYEENGEVTDYPATIDTI

zebrafish D-QEKGTCCVVFYTDYGNEEEQNLSDLLTEPPDMDEDALKTAN--VKETESSTEESSDRSFT
frog D-AKRRTCIVVYSGYGNSEEHSLADLRFDPDTEAESDQRDQEQEINGDEHSTDESSDRSSR
mouse D-FKRETCVVVYTYGYNREEQNLSDLLSPTCEVANSTEQNTQENE--SQVSTDDSEHSSR
rat D-LKRETCVVVYTYGYNKEEQNLSDLLSPTCEVANSTEQNTQENE--SQVSTDDSEHSSR
human D-FKRETCVVVYTYGYNREEQNLSDLLSPTCEVANNIEQNAQENENESQVSTDESENS-R
macaque D-FKRETCVVVYTYGYNREEQNLSDLLSPTSEVAN-IEQNAQENENESQISTDESENS-R
cow D-FKRETCVVVYTYGYNREEQNLSDLLSPTSEVAN-IEQNAQENENESQISTDESENSSR
dog D-FKRETCVVVYTYGYNREEQNVSDLLSPACEVANNEVQDTQENENESQISTDESENSSR
cat D-FKRETCVVVYTYGYNREEQNVSDLLSPASAVDNNVEQNAQENENESQISTDESENSCR
chicken N-LKRGTCVVYTYGYNKEEQNLADLLPPASDET-----NENETPYSTDESEKSSQ
Drosophila N-EEKGTCLVRLYLYENEQEVLLVDLLPSPWGRVRRREQFLIAKKDEDEQLSRPKASAGSH
C.elegans GGADNLEVGVTFIYYGGQAVVQMKDLWLNEEAIADAVKAENDLQTKTKTSTVNSVAHSNS

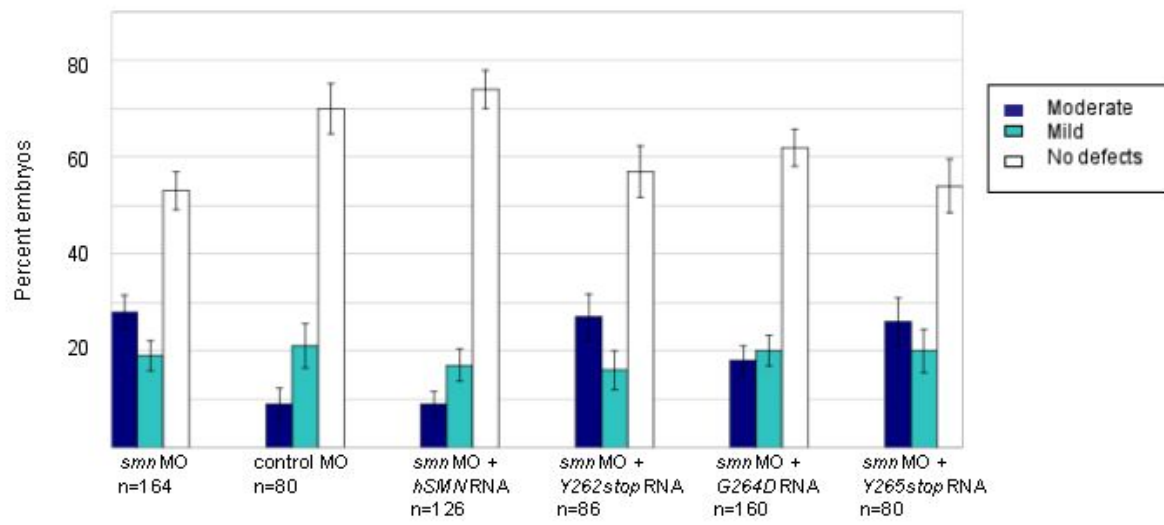
zebrafish PQKSGHAKHKSNSNFPMPGPPSWFPSFPPGPPPPPPHFKKMDGRRGEGPGP-----S
frog SHQSKDPQNETPKSSQ----WNGQFPVPPPPMPGFRHG-EKLDQAHF-----F
mouse SLRSKAHKS-SKAAP-----WTSFLPPPPMPGSGLGPKPGLKFNGLPPPPPLPPPPF
rat SLRSKAHKS-SKAAP-----WTSFLPPPPVPGAGLPGKPLRFSGPPPPPPPPPPF-F
human SPGNKSDNIKPKSAP-----WNSFLPPPPMPGPRLGPKPGLKFNGLPPPPPPPPPHL
macaque SPGKSDNIKPKSAP-----WNSFLPPPPMPGPRLGPKPGLKFNGLPPPPPPPPPHL
cow SPLNKPNNIRSRAAP-----WNSFLPPPHMPSRGLGPKSGLNFSGPPPPPPPP-PHF
dog SPGNKPNNIKSKAAP-----WNSFLPPPPMPSGSGLGPKPGVKSFGPPPPPPPP--HF
cat SPGNKSNVKSATS-----WNSFLPPPPMPGAGLPAKPLKFNGLPPPPPPPP-PHF
chicken SHHNENCTKARFSP-----KNLRFPIPTPPG----LGRHGSKFRTLPP-----F
Drosophila SKTPKSSRRSRISGG-----
C.elegans KSTSSAPNTS-----

zebrafish FPGWPPMIPLGPPMIPPPPMSPDFGEDDEALGSMLISWYMSGYHTGYYMGLRQGRKEAA
frog LSGWPPFPLGPPMIPPPPMSPDACEDEALGSMLISWYMSGYHTGYLGLKQGRMESS
mouse LPCWMPFFPSGPPIIIPPPPIISPDCLDLDDALGSMLISWYMSGYHTGYMGFRQNKKEGK
rat LPCWMPFFPSGPPIIIPPPPIISPDCLDLDDALGSMLISWYMSGYHTGYMGFRQNKKEGK
human LSCWLPPFFPSGPPIIIPPPPICPDSLDDADALGSMLISWYMSGYHTGYMGFRQNKKEGR
macaque LSCWMPFFPSGPPIIIPPPPICPDSLDDADALGSMLISWYMSGYHTGYMGFRQNKKEGR
cow LSRWLPPFPAGPPMIIPPPPICPDSLDDADALGSMLISWYMSGYHTGYMGFKQSQKEGR
dog LSCWLPPFFPSGPPIIIPPPPICPDSLDDADALGSMLISWYMSGYHTGYMGFKQNKKEGR
cat LSCWLPPFFPSGPPIIIPPPPICPDSLDDADALGSMLISWYMSGYHTGYMGFKQNKKEGR
chicken LSCWPPFFPAGPPLIIPPPMGPDSPEDEALGSMLIAWYMSGYHTGYLGLKQSRMEAA
Drosophila -----LVMPPMPVPPMIVGGDGAEQDFVAMLTAWYMSGYHTGYLQGGKKEASTSG
C.elegans -----MPFFSFAPPVPPN-I IAMAPVNQKEAMNSMLMSWYMSGYHTGYLQALADQKNVQN
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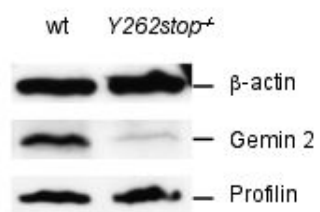
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zebrafish ASKKSHRK
frog IGKPPHQK
mouse -CSHTN--
rat KCSHTN--
human CSHSLN--
macaque CSHSLN--
cow YSHFN---
dog CSHFN---
cat CSHFN---
chicken LEREAYLK
Drosophila KKKTPKK
C. elegans -----
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Supplementary Figure 1: zebrafish *smn* mutations identified by TILLING. Protein sequence alignments of zebrafish Smn with other species showing the eight point mutations identified by TILLING (red). The identified *smn* mutations were distributed throughout the Smn protein; S38A, G120E, M137V, T150I, P186A, Y262stop, G264D, and L265stop.

Supplementary Figure 2

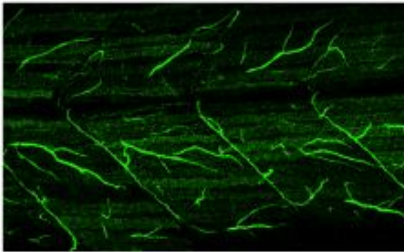


Supplementary Figure 3



Supplementary Figure e 4

wt



smnY262stop^{-/-}

