

Table S1 *Drosophila* S2R+ protein trap lines and the subcellular distribution of their mCherry signal

Cell line	Subcellular localization of mCherry	Inverse PCR	MS
NPTC1	Control cell line with no visible signal		
NPTC2	Control cell line with no visible signal		
NPTC3	Control cell line with no visible signal		
NPTC4	Control cell line with no visible signal		
NPTC5	Control cell line with no visible signal		
NPTC6	Control cell line with no visible signal		
NPT001	Weak cytoplasmic signal		
NPT002	Weak cytoplasmic signal		
NPT003	Weak cytoplasmic signal		
NPT004	Cytoplasmic signal		
NPT005	Cytoplasmic signal and endoplasmic reticulum	X:13711049 (<i>Clic</i>)	Clic
NPT006	Weak signal		
NPT007	Weak signal		
NPT008	Cytoplasmic signal		
NPT009	Weak cytoplasmic signal		
NPT010	Weak cytoplasmic signal		
NPT011	Weak signal		
NPT012	Weak signal		
NPT014	Cytoplasmic signal		
NPT015	Cytoplasmic signal		
NPT106	Weak cytoplasmic signal		
NPT017	Cytoplasmic signal and cleavage furrow	N/A (potentially multiple insertions)	Fim
NPT018	Cytoplasmic signal		
NPT019	Weak signal		
NPT020	Weak cytoplasmic signal		
NPT021	Weak signal		
NPT022	Weak cytoplasmic signal	3R:11236593 (<i>atx2</i>)	
NPT023	Weak cytoplasmic signal		
NPT024	Weak signal		
NPT025	Weak cytoplasmic signal		
NPT026	Weak cytoplasmic signal		
NPT027	Weak signal		
NPT208	Weak signal		
NPT029	Weak signal		
NPT030	Weak signal		
NPT031	Weak signal		
NPT032	Weak signal		
NPT033	Weak signal		
NPT034	Weak cytoplasmic signal		
NPT035	Weak cytoplasmic signal		
NPT036	Weak signal		
NPT037	Weak cytoplasmic signal		
NPT038	Weak signal		
NPT039	Weak signal		
NPT040	Weak signal		
NPT041	Weak signal		

NPT042	Weak signal	
NPT043	Weak signal	
NPT044	Weak signal	
NPT046	Weak cytoplasmic signal	
NPT047	Weak signal	
NPT048	Weak signal	
NPT049	Weak signal	
NPT050	Peri-Golgi	
NPT052	Weak signal	
NPT101	Endoplasmic Reticulum	
NPT102	Endoplasmic Reticulum	3L:9844863 (<i>gap1</i>)
NPT103	Cytoplasmic signal	
NPT104	Cytoplasmic signal	

The insertion site as mapped by inverse PCR and the trapped protein as identified by LC-MS/MS (MS) are indicated, if determined.

Table S2 Oligos used to generate EGFP-shRNAs. Capitalized letters indicate target-specific sequences

Construct	Forward oligo	Reverse oligo
#1	ctagcagtCGGCATCAAGGTGAACCTCAAtagttatattcaagcata TTGAAGTTACCTTGATGCCGgcg	aattcgcCGGCATCAAGGTGAACCTCAAtatgcttgaatataactaT TGAAGTTACCTTGATGCCGactg
#2	ctagcagtCAAGGACGACGGCAACTACAAtagttatattcaagcat aTTGTAGTTGCCGTCGTCCTTGgcg	aattcgcCAAGGACGACGGCAACTACAAtatgcttgaatataacta TTGTAGTTGCCGTCGTCCTTGactg
#3	ctagcagtCGGCCACAAGTTCAGCGTGTCTagttatattcaagcata GACACGCTGAACTTGTGGCCGgcg	aattcgcCGGCCACAAGTTCAGCGTGTCTatgcttgaatataacta GACACGCTGAACTTGTGGCCGactg