

Table S2: Translation factor screen details

| Sources |
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| BDSC: Bloomington <i>Drosophila</i> Stock Center |
| VDRC: Vienna <i>Drosophila</i> Resource Center |

| Color scheme | | | | | | |
|--------------|-----------------|-----------|---------------|----------|-----------------|------------|
| Suppressor | Mild Suppressor | No Effect | Mild Enhancer | Enhancer | Lethal Enhancer | not tested |

| Fly Gene | | | Human | Loss-of-function (LOF) line tested | | | | | Final Call | LDS-(G4C2) _{EXP} | | (GR) ₃₆ | Alone | Control (LacZ) | |
|-------------------|---------|-------------|------------|------------------------------------|---------|--------|-----------|--|----------------------------------|---------------------------|-----------------|--------------------|-----------|-------------------|---|
| Gene Symbol | CG # | Flybase # | orthologue | Source | Stock # | Type | Details | RNAi | | Toxicity | GR-GFP levels | Toxicity | Phenotype | expression | Notes |
| eIF4B | CG10837 | FBgn0020660 | EIF4B | BDSC | 57305 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS04503}attP40 | Candidate RAN-translation factor | Suppressor | Suppressor | Enhancer | No Effect | No Effect | Similar results seen with VDRC stock #330010 (RNAi.VSH330010) |
| eIF4H1 | CG4429 | FBgn0262734 | EIF4H | BDSC | 57306 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS04504}attP40 | Candidate RAN-translation factor | Suppressor | Suppressor | Enhancer | No Effect | No Effect | Similar results seen with VDRC stock #100817 (RNAi.KK108805) |
| eIF4E3 | CG8023 | FBgn0265089 | EIF4E | BDSC | 53880 | RNAi | Valium 20 | y1 v1; P{TRiP.HMJ21195}attP40 | Candidate RAN-translation factor | Suppressor | Suppressor | Enhancer | No Effect | No Effect | |
| eIF4E4 | CG10124 | FBgn0035709 | EIF4E | BDSC | 50951 | RNAi | Valium 20 | y1 v1; P{TRiP.HMJ21052}attP40 | Candidate RAN-translation factor | Suppressor | Suppressor | Enhancer | No Effect | No Effect | |
| eIF4E7 | CG32859 | FBgn0040368 | EIF4E | BDSC | 33471 | mutant | EP-REV | P{EP}eIF4E7G1355 w* | Candidate RAN-translation factor | Suppressor | Suppressor | No Effect | | No Effect | |
| eIF5B | CG10840 | FBgn0026259 | EIF5B | BDSC | 44418 | RNAi | Valium 22 | y1 sc* v1; P{TRiP.GL01593}attP2/TM3, Sb1 | Candidate RAN-translation factor | Suppressor | Suppressor | No Effect | | Mild upregulation | |
| eIF5 | CG9177 | FBgn0030719 | EIF5 | BDSC | 34841 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS00159}attP2 | Candidate RAN-translation factor | Suppressor | Suppressor | No Effect | No Effect | No Effect | |
| eIF2β | CG4153 | FBgn0004926 | EIF2S2 | BDSC | 53268 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMC02396}attP2/TM3, | Candidate RAN-translation factor | Mild Suppressor | Suppressor | No Effect | No Effect | No Effect | |
| eIF3d1 (eIF-3p66) | CG10161 | FBgn0040227 | EIF3D | BDSC | 20072 | mutant | EP-REV | y1 w67c23; P{EPgy2}eIF3d1EY05735/TM3, | Candidate RAN-translation factor | Mild Suppressor | Mild Suppressor | No Effect | | No Effect | |
| eIF4E5 | CG8277 | FBgn0035823 | EIF4E | BDSC | 66332 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMC06261}attP40 | Candidate RAN-translation factor | No Effect | Suppressor | Enhancer | No Effect | No Effect | |
| eIF3i (eIF3-S2) | CG8882 | FBgn0015834 | EIF3I | BDSC | 34978 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS01387}attP2 | Candidate RAN-translation factor | No Effect | Mild Suppressor | No Effect | | No Effect | |
| eIF3K | CG10306 | FBgn0034654 | EIF3K | BDSC | 44493 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMC02415}attP2 | Potential RAN-translation factor | No Effect | Mild Enhancer | No Effect | No Effect | No Effect | |
| eIF2By | CG8190 | FBgn0034029 | EIF2B3 | BDSC | 41948 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS02345}attP40 | G4C2 Suppressor | Suppressor | No Effect | Enhancer | | | |
| eEF2 | CG2238 | FBgn0000559 | EEF2 | BDSC | 21351 | mutant | EP-REV | y1 w67c23; P{EPgy2}eEF2EY02807/CyO | G4C2 Suppressor | Suppressor | No Effect | No Effect | | | |
| eIF2Bδ | CG10315 | FBgn0034858 | EIF2B4 | BDSC | 15441 | mutant | EP-REV | y1 w67c23; P{EPgy2}eIF2BδEY03558 | G4C2 Suppressor | Suppressor | No Effect | No Effect | | | |
| eEF1β | CG6341 | FBgn0028737 | EEF1B2 | BDSC | 16371 | mutant | EP-REV | y1 w67c23; P{EPgy2}eEF1βEY05513 | G4C2 Suppressor | Suppressor | No Effect | No Effect | | | |
| eIF4G1 | CG10811 | FBgn0023213 | EIF4G3 | BDSC | 33049 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS00762}attP2 | GR suppressor | Suppressor | Mild Enhancer | Mild Suppressor | No Effect | No Effect | |
| eIF3b (eIF3-S9) | CG4878 | FBgn0034237 | EIF3B | BDSC | 32880 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS00668}attP2 | GR Enhancer | Enhancer | Enhancer | Enhancer | No Effect | No Effect | |
| eIF3l | CG5642 | FBgn0036258 | EIF3L | BDSC | 50959 | RNAi | Valium 20 | y1 v1; P{TRiP.HMJ21061}attP40/CyO | GR Enhancer | Mild Enhancer | Mild Enhancer | Enhancer | No Effect | | |
| eIF4E1 | CG4035 | FBgn0015218 | EIF4E | BDSC | 34096 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS00969}attP2 | GR Enhancer | No Effect | Mild Enhancer | Enhancer | No Effect | | |
| NAT1 | CG3845 | FBgn0010488 | EIF4G2 | BDSC | 32357 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMS00348}attP2 | GR Enhancer | No Effect | Enhancer | Mild Enhancer | No Effect | No Effect | |
| eIF5C | CG2922 | FBgn0250753 | BZW1 | BDSC | 27248 | RNAi | Valium 10 | y1 v1; P{TRiP.JF02556}attP2 | GR Enhancer | Enhancer | Enhancer | Enhancer | No Effect | | similar results seen with BDSC stock #38918 (RNAi.TRiP.GL00690) |
| eIF1 | CG17737 | FBgn0035423 | EIF1B | BDSC | 57174 | RNAi | Valium 20 | y1 sc* v1; P{TRiP.HMC04556}attP40 | No Effect | No Effect | No Effect | Enhancer | | | |

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|--------------|---------|-------------|-------------------|--|--|--|--|--|------------|--|--|--|--|--|--|
| eIF4E6 | CG1442 | FBgn0039622 | EIF4E, EIF4E1B | | | | | | not tested | | | | | | |
| eIF5A (eEF5) | CG3186 | FBgn0285952 | EIF5A2 | | | | | | not tested | | | | | | |
| eIF6 | CG17611 | FBgn0034915 | EIF6 | | | | | | not tested | | | | | | |