

Protein synthesis is a regulated cellular process that links nutrients in the environment to organismal growth and development. Here we examine the role of genes that regulate mRNA translation in determining growth, reproduction, stress resistance and lifespan. Translational control of protein synthesis by regulators such as the cap-binding complex and S6 kinase play an important role during growth. We observe that inhibition of various genes in the translation initiation complex including *ifg-1*, the worm homologue of eIF4G, which is a scaffold protein in the cap-binding complex; and *rsks-1*, the worm homologue of S6 kinase, results in lifespan extension in *Caenorhabditis elegans*. Inhibition of *ifg-1* or *rsks-1* also slows development, reduces fecundity and increases resistance to starvation. A reduction in *ifg-1* expression in dauers was also observed, suggesting an inhibition of protein translation during the dauer state. Thus, mRNA translation exerts pleiotropic effects on growth, reproduction, stress resistance and lifespan in *C. elegans*.

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