**The role of regulatory proteins in aging**

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We have described a novel model for the mechanism of aging: disintegration of somatic genomes is primarily caused by the lifelong, progressive mobilization of mutagenic transposable elements (MGEs; such elements constitute, for example, nearly half of the human genome). We inactivated MGEs in the somatic genome of the nematode *Caenorhabditis elegans*, and found that this intervention substantially extends lifespan. We are currently looking for small molecules (potential drug candidates) that are able to block MGEs, and detecting MGE insertions in genes encoding components of the autophagy, heat shock protein and endoplasmic reticulum-stress systems. We have identified direct regulatory interactions among these major cellular repair systems.