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Old flies oxidize

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William Wells
Email: wells@biotext.com

In the December 5 Proceedings of the National Academy of Sciences, Zou *et al*. find that only some of the processes of aging in the fly can be explained by increased oxidative stress (*Proc Natl Acad Sci USA* 2000, **97:**13726-13731). Zou *et al*. analyze expression profiles of both aging flies and young flies exposed to the free-radical generator paraquat, using microarrays of approximately 8000 expressed sequence tags (ESTs) that cover 30-40% of the *Drosophila* genome. Of these ESTs, 43 are upregulated with age, and 89 are downregulated. There are reductions in transcripts involved in reproduction, metabolism and protein turnover. Some genes encoding detoxification agents and chaperones are upregulated, while others are downregulated. Many of these changes are similar to those seen in the mouse, although the specific genes involved tend to differ. One third of all age-regulated genes show significant changes in response to oxidative stress. This suggests that free radicals are not the only causal factor in aging.

References

1. *Proceedings of the National Academy of Sciences*, [http://www.pnas.org/]

2. Molecular biology of aging.

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