

Video: Green algae reveals that one mRNA encodes many proteins

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Gene expression in eukaryotes was long held to be monocistronic—that is, a single gene makes messenger RNA, which encodes a single protein. Recently reported in the *Proceedings of the National Academy of*

Sciences, a team of researchers has found numerous examples of polycistronic expression—in which two or more genes are encoded on a single molecule of mRNA—in two species of green algae, *Chlamydomonas reinhardtii* and *Chromochloris zofingiensis*.

"I was scrutinizing the genes of one of our species of algae and kept seeing what looked like mistakes by the gene prediction algorithms. I decided to dig in a little deeper, and realized what was really happening," recalled Sean Gallaher, a research scientist in Sabeeha Merchant's lab and first author of the article.

More information: Sean D. Gallaher et al. Widespread polycistronic gene expression in green algae, *Proceedings of the National Academy of Sciences* (2021). [DOI: 10.1073/pnas.2017714118](https://doi.org/10.1073/pnas.2017714118)

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