

Analysis of transcriptome revealed that a membrane occupation and recognition nexus (MORN) repeat protein-encoding gene of *Euplotes octocarinatus* (Eo-morn-9-31) was a candidate for programmed +1 ribosomal frameshifting (+1 PRF). In this study, a dual-luciferase assay was performed to detect its expression. The result showed that the MORN repeat protein (Eo-MORN-9-31) could be produced by the +1 PRF event during the process of translation in yeast and the frameshifting efficiency was about 4–5%. We further confirmed its reality by western blot and mass spectrometry. This study provided experimental evidence indicating that the expression of the Eo-MORN-9-31 of *E. octocarinatus* required the +1 PRF.

The Eo-morn-9-31 could produce a MORN repeat protein containing nine MORN repeats with an apparent molecular weight of 41.2 kD, or only encode a truncated protein (34.8 kD) depending +1 PRF.

