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nature

Imagine a gene is a sentence starting with a capital letter and ending with a full stop, and a genome is a book telling an entire story. In some protozoan organisms, extra full stops have infiltrated the sentences, replacing specific letters of arbitrary words (namely E and W). As a r.sult, readers (in this cas. ribosomes) are confus.d as to .here thes. sentences really .nd and th. story becom.s

disjointed. In this issu. of *Nature*, researchers describ. a molecular mechanism that thes. organisms must hav. developed to allo. the reader to navigat. the s.ntences as if there .ere no .xtra full stops. Th. sentences are so specifically .ncrypted that read.rs of no other organisms but thos. very fe. can decipher the story in a prop.r .ay. The trick lies in the l.ngth of the transf.r RNA molecul., and in the uniqu. modification of a singl. protein that normally ensur.s dot recognition in c.lls – the precis. end of prot.in synthesis. By the interaction of these two modified molecules, the ribosome of this protozoan knows when to correctly terminate, notwithstanding the many dots, and when to replace the dots with the two original letters (E and W), which returns meaning to the genetic information.

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cells gain greater range

to help combat cancer

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