Octopuses can manipulate their own genes, perhaps to solve problems

Cephalopods…can solve a shocking number of complex puzzles, suggesting a cognition that rivals those found in the vertebrate world—even though they last shared a common ancestor with us at least 500 million years ago. In the world of invertebrates, octopuses, squid, and cuttlefish stand apart.

We may finally have some idea why. According to a study published in *Cell*, these creatures have an uncanny ability to manipulate the instructions found within their DNA. An unprecedented panache for RNA editing may explain why cephalopods are so bright and adaptable.

Sometimes RNA rebels. Sometimes enzymes intervene, pulling out the RNA adenosine bases that code for certain proteins and replacing them with inosine bases instead. When this happens, the RNA can be 'edited' to produce a different protein than the one called for by the DNA.

In recent years, scientists have made a more systematic approach—and found that humans occasionally use this genetic trick, too. But for us, it's a rare occurrence.

Of the 1,000 or so coding sites where editing could take place [in humans], only a few dozen exist in places where the editing would likely have an important impact.

Squid, which have the same number of genes, have around 11,000 of these useful sites.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: Octopuses can basically edit their own genes on the fly

For more background on the Genetic Literacy Project, read GLP on Wikipedia