CRISPR roaches: Gene editing shown to work in insects, opening doors for advanced pest control

Researchers have developed a CRISPR-Cas9 approach to enable gene editing in cockroaches, according to a study published by Cell Press on May 16th in the journal *Cell Reports Methods*. The simple and efficient technique, named “direct parental” CRISPR (DIPA-CRISPR), involves the injection of materials into female adults where eggs are developing rather than into the embryos themselves.

“In a sense, insect researchers have been freed from the annoyance of egg injections,” says senior study author Takaaki Daimon of Kyoto University. “We can now edit insect genomes more freely and at will. In principle, this method should work for more than 90% of insect species.”

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“By improving the DIPA-CRISPR method and making it even more efficient and versatile, we may be able to enable genome editing in almost all of the more than 1.5 million species of insects, opening up a future in which we can fully utilize the amazing biological functions of insects,” Daimon says. “In principle, it may be also possible that other arthropods could be genome edited using a similar approach. These include agricultural and medical pests such as mites and ticks, and important fishery resources such as shrimp and crabs.”

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