

CRISPR's promise may expand beyond genome editing

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Three years ago, [Stanley Qi](#) took CRISPR — the world's most versatile gene-editing tool — and stopped it from editing any genes.

CRISPR is a young and ferociously hyped technique that allows scientists to easily and precisely tweak almost any gene they want, opening up [experiments](#) that were once unfeasible or impractical, and triggering a new round of ethical debates about [messing with the human genome](#). During these debates, CRISPR has become almost synonymous with the editing of genes. But gene-editing might not be its most promising use.

The technique relies on two components: an enzyme called Cas9 that cuts DNA like a pair of scissors, and a guide molecule that directs Cas9 to a specific target like a genetic GPS system. Qi, now at Stanford University, found a way of blunting the scissors, creating a “dead” version of Cas9 that can't cut anything at all.

The dead enzyme can now act as a platform for other molecules, including activator molecules that switch genes on, repressors that turn them off, or glowing substances that reveal their locations. And with the right guide molecules, scientists can now direct these payloads to any gene they like.

With this technique, you can actually *control* any gene you want. You don't just have an editor. You have a stimulant, a muzzle, a dimmer switch, a tracker.

Read full, original post: [CRISPR's Most Exciting Uses Have Nothing to Do With Gene-Editing](#)