



CRISPR: A biotechnological “Swiss army knife”

Will tomorrow's “high-performance soldier” be a genetically modified one? Science opens the doors to fiction.

CRISPR-Cas9 is a breakthrough technology that lives up to the wildest dreams: it opens up the possibility of being able to control the development of – and modify – DNA at will. Will it be possible to make soldiers stronger, faster and more resilient, to enhance their stress-resistance and their cognitive capacities? The ability to modify DNA has become a reality in a number of industries – e.g. pharmaceuticals, where it allows us to test a medicine's efficacy on different genetic profiles, though without actually interacting with the human body. The proteins secreted by spiders while building their webs, a variant of which is used to manufacture bullet-proof vests, can now be obtained from the proteins in milk produced by genetically modified goats.

Progressing from genetic modifications in animals to those in humans is of course the subject of numerous ethical debates, but we are currently faced with a big hurdle: we do not know enough about the human genome to establish which genes should be modified to bring about the intended improvements.



It is now possible to change DNA, but understanding the significance of the different genes remains the major challenge.

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