Beer that combats cancer? Czech scientists have developed gene edited therapeutic hops but EU biotech restrictions block rollout

Czech researchers from the Biological Center of the Czech Academy of Sciences in ?eské Bud?jovice are modifying select genes in hops so they help the human body combat cancer, inflammation, and bacteria. But current EU rules will make it hard to bring their results to the market.

Scientists at the Biological Center began to modify hops using CRISPR technology for gene splicing. The CRISPR method is less intrusive than previous gene modification techniques, and focuses on modifying single genes. Hops are one of the main ingredients in beer.

The scientists' first target was the gene for an enzyme that regulates the production of leaf dyes. When switched off, the leaves turn white.

The team will now focus on changing genes responsible for the production of bitter acids, which will improve beer quality in brewing. They will also focus on the production of prenylated flavonoids, a group of chemical compounds that act against cancer, bacteria, and inflammation, according to a summary on the Czech Academy of Sciences website. These compounds are already naturally present but in small quantities.

The beneficial compounds from hops have already caught the interest of the pharmaceutical industry, and can be used as an active ingredient in medicines, team member Tomáš Kocábek said.

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