

Gooda, Gouda! Solving the 800-year-old secret of a big cheese

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Almost 800 years after farmers in the village of Gouda in Holland first brought a creamy new cheese to market, scientists in Germany say they have cracked the secret of Gouda's good taste. They have identified the key protein subunits, or peptides, responsible for the complex, long-lasting flavor of the popular cheese. That discovery could lead to development of more flavorful cheeses and other dairy products. Their study is in the current issue of *ACS' Journal of Agricultural and Food Chemistry*.

Thomas Hofmann, Simone Toelstede and Andreas Dunkel note that the scientists have tried for years to pinpoint the natural molecules responsible for the long-lasting taste and wonderful texture of Gouda cheese. It develops during the aging or ripening stage, with aged Gouda more full and complex, with longer-lasting flavor, than the younger version. Cheese lovers prize this characteristic taste, known as the "kokumi sensation."

The scientists solved the age-old mystery by applying a molecular sensory science approach. It combined mass spectroscopy and other high-tech analytical instruments and sophisticated sensory tools to identify six gamma-glutamyl peptides that appear to be mainly responsible for the kokumi sensation in Gouda. This knowledge could be used to enhance the flavor of dairy products by technological means, the researchers say.

More information: *Journal of Agricultural and Food Chemistry*, "A Series of Kokumi Peptides Impart the Long-Lasting Mouthfulness of

Matured Gouda Cheese”

Provided by ACS

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