



Good Food, Good Life

## Nestlé Scientists Identify Food-Based Molecules that Help Regulate Starch Digestion

**Lausanne, SWITZERLAND 18 June 2008** – Scientists at the Nestlé Research Center, Lausanne, Switzerland, utilized an innovative research strategy to identify compounds that may help regulate starch digestion. This original technique allows scientists to detect food-based molecules that can potentially inhibit human salivary  $\alpha$ -amylase. The full article contribution is available on the [Journal of Medicinal Chemistry](#) website.

Using the flavonoid family of natural antioxidant compounds, Nestlé researchers combined computer analyses of molecular structures with *in vitro* screenings to predict specific flavonoid molecules that can act as inhibitors of human salivary  $\alpha$ -amylase.

A common clinical strategy for diabetic patients to manage sharp rises in blood glucose after eating is the use of pharmaceutical agents that inhibit specific starch-splitting enzymes to slow starch digestion. Nestlé scientists were interested in finding natural food-based compounds that can modulate this process, and to further understand the molecular mechanisms through which this interaction occurs.

Results of the study provided Nestlé researchers with insight into the interactions of flavonoids with salivary  $\alpha$ -amylase and the mechanisms through which these molecules inhibit the salivary  $\alpha$ -amylase enzyme to slow starch digestion.

“This is the first time that a combination of *in vitro* screenings and computer analysis was used to identify specific flavonoids that inhibit human salivary  $\alpha$ -amylase. These findings bring us a step forward in the Nestlé Research commitment to offer practical nutrition solutions to help people manage their blood glucose,” said Nestlé scientist Dr. Chieh Jason Chou.

Knowledge gained from this study will lead to a better understanding about food-based compounds and their natural properties, to help Nestlé further the research and development of products with a positive impact on health and wellness.

### Article Reference:

Lo Piparo E, Scheib H, Frei N, Williamson G, Grigorov M, Chou CJ. Flavonoids for controlling starch digestion: structural requirements for inhibiting human  $\alpha$ -amylase. *J Med Chem*, published online ahead of print 29 May 2008. doi: 10.1021/jm800115x



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### **About Nestlé Science and Research**

Nestlé Science & Research, encompassing the Nestlé Research Center and its extensive network of external alliances, is a leading research entity in food, nutrition and life sciences. Based on Nestlé's research emphasis, Nestlé Science & Research builds strategic alliances with the best scientific institutions in the world to bring a full breadth of knowledge to its nutrition, health and wellness research. A diverse staff of premier researchers from a broad range of scientific competencies together with external collaborators worldwide are central to fulfilling Nestlé's vision of *Good Food, Good Life*. Learn more about the Nestlé Research Center at [www.research.nestle.com](http://www.research.nestle.com).

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