

Global Congress on

# Biochemistry, Glycomics & Amino Acids

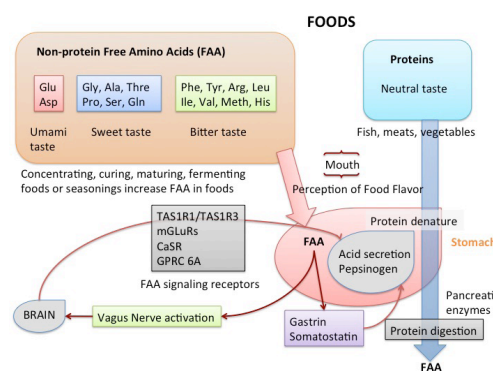
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## Making the most of amino acids in foods, their taste and function in the stomach

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Sensory receptors from eyes, nose, skin, and mouth notify the brain about the world that surrounds us; and all are essential to evaluate how appealing is a meal. Non-protein free amino acids (FAA) from foods seem to bind to various sensory receptors on the tongue, taste receptor cells, and in the stomach where different cells can detect FAA via the calcium sensing receptor (CaSR), the G-protein coupled receptor family C group 6 (GPCR6A), the taste receptor type 1 heterodimer (TAS1R1/TAS1R1), and the metabotropic glutamate receptors (mGluRs). Amino acid transporters in membranes of gastric cells can also regulate different cell functions. FAAs add characteristic flavors to certain foods with umami, bitter or sweet tastes, and in the stomach, before protein digestion takes place, they may interact with signaling receptors in various cells, from mucous, pepsinogen or acid-producing cells, to enteroendocrine cells that release gastrin, somatostatin, or ghrelin. All these hormones are crucial for the regulation of protein digestion in the stomach and the sensation of hunger after a meal. This suggests that there might be a link between taste, quality and intensity, and gastric function and appetite regulation. There is a need for a deeper understanding on the role of taste active compounds in the stomach because FAAs in foods may enhance the satiating effect of proteins via taste receptors besides the fact that appealing tastes with FAAs can promote the intake of more healthful ingredients such as vegetables or low fat low salt foods.



**Figure 1:** Directly or indirectly, FAA can promote acid and pepsinogen secretion, which makes the digestion of proteins more efficient.

### Biography

San Gabriel A has expertise on Taste Physiology and especially, on G-protein-coupled receptors of taste receptors and gastric cells. She has also work on the analysis of non-protein free amino acids (FAA) in breast milk and is interested on understanding how dietary proteins from the mother influences on the FAA profile of her milk. Currently, she is working as a Science Communicator in the Global Communications department of Ajinomoto Co., and is the Scientific Affairs Representative of the NPO Umami Information Center.

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