## SS1-3 Taste Signaling and Receptor Function for Regulation of Ingestive Behavior

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It is generally accepted that the sense of taste comprises of five basic qualities, such as sweet, sour, bitter, salty and umami. Physiological significance of discrimination of the basic tastes for animals is considered in association with homeostatic regulation through behavioral adjustments. For example, animals prefer sweet substances, such as sugars, which signify carbohydrate source of calories, but avoid bitter substances, such as alkaloids, which are commonly toxic. Animals that are sodium deficient exhibit a craving for salty tasting substances. Umami is thought to be indicative of proteinaceous matter. The taste signals locating at the entrance of the gastrointestinal tract play a major role in rigid selection of foods and facilitating absorption of needed nutrients. Recent molecular studies provided evidence for candidate molecules of receptors for bitter (T1Rs), sweet and umami (T1Rs). In my talk, I will discuss about functional roles and variability of taste signals derived from the oral cavity, pharynx and larynx in ingestive behavior, and potential links between human individual differences in umami taste sensitivities and amino acid variations of candidate receptor molecules.