

**Applicant**

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**Project Title**

An investigation of variation in taste receptor genes, dietary intake and biomarkers of health

**Project Summary**

Genetic variation has been associated with taste sensitivity, food preferences, and markers of health, although findings across studies are inconsistent. The focus of this project is to clarify associations between variation in a bitter taste receptor gene (TAS2R38), food intake, and markers of health using three large-scale cohorts. These relationships will be evaluated using a comprehensive set of outcomes including food intake, biomarkers, and biological processes via proteomics/metabolomics assessment. Findings from this research will help to clarify evidence on relationships between genetic variation, food intake and health. Moreover, findings from the proteomics/metabolomics assessment will enable broadened investigation of relationships between the bitter taste receptor haplotype and biological processes, such as immunity. This will provide novel insight into how the human sensory system may be linked to other molecular pathways that are relevant to health and disease.

**Keywords**

Genetics, Taste perception, Dietary intake, Food preferences, Biomarkers