



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

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Project Title Supertasting Ability, Satiety, and Childhood Obesity in the Hispanic Population	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals There are no data till date that link tasting ability, satiety, and childhood obesity in general and in the Hispanic population in particular. However, studies have also shown that an individual's ability to taste (supertaster versus non-taster) can also be correlated with body mass index (BMI)/obesity. Our primary goal was to determine if any correlation exist between sensitivity to taste, satiety and obesity in Hispanic children. We measured leptin and leptin receptors as indicators of satiety index and correlated the tasting responses to Phenylthiourea (PTC) in children with varied degrees of obesity.</p> <p>Methods/Materials A group of 100 children aged 6-18 years volunteered to participate in the study. The intensity of taste perception was measured directly by Phenylthiourea- Phenylthiocarbamide (PTC strips- Precision Laboratories FL). Cognitive eating behaviors were evaluated using study designed questionnaires; Body mass index was used as an indicator of obesity and Satiety was determined by measuring serum Leptin and Leptin receptor levels by an ELISA assay.</p> <p>Results Of the volunteers that participated, 23% were normal tasters, 29% were non-tasters and 48% were dominant supertasters. The Body Mass Index of the subjects ranged from 17.5-42.9. The Leptin levels ranged from 700 pg/mL to 66,500 pg/mL. Leptin receptors levels ranged from 18.5 ng/mL to 73 ng/mL. There was a significant positive correlation between the Body Mass Index and the Leptin levels of our population $p < 0.05$. There was a significant negative correlation between the Body Mass Index and the Leptin receptor levels of our population $p < 0.05$. One way ANOVA comparisons of tasters, non-tasters, and dominant supertasters did not yield any significant difference between the Body Mass Index, Leptin levels, and Leptin Receptors.</p> <p>Conclusions/Discussion We need to continue enrolling more subjects to improve the power of our testing; although, some trends of correlation between satiety and tasting ability can be observed, but they are not statistically significant. Also, exploring the possibility of conducting a genetic evaluations of these subjects related to the obesity and satiety genes will provide more information.</p>	
Summary Statement We explored the link between tasting ability and satiety in childhood obesity in the Hispanic Population	
Help Received Did lab analysis at Universal Biopharma Institute of Health under the supervision of Dr. Kushoo; enrolled subjects at Alta Family Health Clinic	