

Title: Biomarkers of Adaptation to a Chronic Increase in Water Intake

IRB# 2008-082

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Synopsis:

This pilot study aims to address gaps in knowledge about adaptation to chronic change in water intake in healthy individuals. The goal is to identify and describe possible biomarkers of adaptation to chronic change in water intake. The results will inform the design of studies on long-term effects of water intake on health.

This clinical study will use an A-B-C-A (within-person) design. Each of 5 healthy young men will be followed for four 14-day periods.

Each participant will be studied for 8 weeks (56-days). During Weeks 1 and 2, study participants will consume their usual diet (total water intake of 2L/d or less). During Weeks 3 and 4, study participants will increase total water intake to 3L/d by consuming an additional 1L/d (approximately 15ml/kg) of bottled water. During Weeks 5 and 6, study participants will increase total water intake to 4L/d by consuming an additional 2L/d or 30 ml/kg of bottled water, relative to baseline. During Weeks 7 and 8, participants will decrease total water intake back to the baseline pattern of intake. During each period, the study participants will be instructed to consume the new level of water everyday for 2 weeks. Study participants will be given 1L or 2L of Evian bottled water to drink during Weeks 3 to 6.

Study participants will be free-living throughout the 8 week period. They will be instructed to maintain their usual levels of physical activity (low) and medication use (none) and consume their habitual diet throughout the 8 weeks study period.