

Min Liu, PhD

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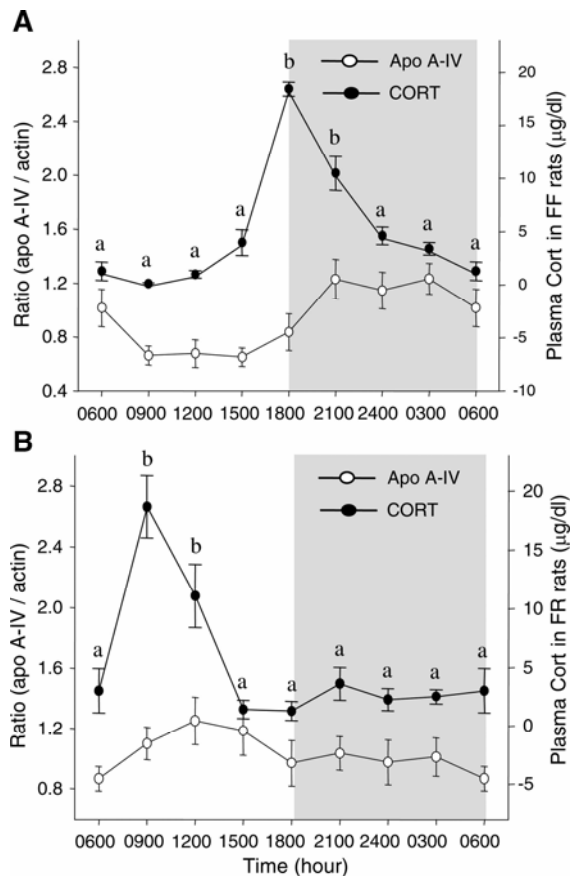
Description of Research:

Dr. Liu is currently studying the role of hypothalamic apolipoprotein AIV (apo AIV) in the development of obesity and how it can be modulated for preventive and therapeutic purposes. Apo AIV is a circulating signal released from intestinal cells in response to lipid feeding, and it contributes to the anorexic effect of a lipid meal. He has demonstrated that apo AIV is also synthesized in the hypothalamus, and that hypothalamic apo AIV gene and protein expression is regulated physiologically. Current work focuses on the following goals: 1) to determine hypothalamic apo AIV gene expression and protein levels and the responsiveness of hypothalamic apo AIV to dietary lipids in several strains of obese and lean animals. He will also determine the response to chronic high-fat feeding in apo AIV knockout mice, 2) to characterize the transport of apo AIV from blood into the central nervous system and to assess the areas in the brain that are activated by apo AIV administered either centrally or intravenously, and 3) to determine the interaction of apo AIV with other regulatory peptides within the hypothalamus. The new knowledge may lead to novel targets for preventive and therapeutic interventions for obesity.

Collaborations:

Dr. Liu works with Dr. Tso studying the apo A-IV function in the hypothalamus. As a new member, Dr. Liu has not used DHC cores.

Representative Figure:



Daily profiles of dynamic changes in plasma corticosterone (Cort) and intestinal apo A-IV protein levels in freely feeding (FF) panel A and food-restricted (FR) panel B rats. Values are expressed as means \pm SE, $n = 5-6$ (for FF rats), and $n = 4$ (for FR rats). Dissimilar letters denote statistically significant differences ($P < 0.05$). Shaded bands represent the light-off phase (1800–0600). Fig. 3 from *Am J Physiol Gastrointest Liver Physiol*, 2005; 288:G48-G53.