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Research Interests

Dr. Cassis' research focuses on molecular and functional examination of the renin-angiotensin system, including the physiological/pathophysiological significance of local tissue renin-angiotensin systems in adipose tissue and heart. Approaches toward examination of local tissue renin-angiotensin systems include biochemical assessment of enzymatic components necessary for angiotensin II (AII) synthesis, molecular characterization of messenger RNA expression, pharmacologic examination of AII receptor subtypes, and functional analysis of AII end-organ responses in adipose tissue and heart. Specifically, a local tissue renin-angiotensin in adipose tissue is under examination for contributions toward the development of obesity and obesity-related hypertension.

In the heart, research focuses on the role of locally formed AII in altering cardiac cell responses contributing to the development and maintenance of congestive heart failure. Results from this research will contribute to the pharmacologic management of the renin-angiotensin system in the disease states of obesity, obesity-related hypertension and congestive heart failure.

Selected Research Publications/Presentations

Cassis L. Role of angiotensin II in brown adipose thermogenesis during cold acclimation. *Amer J Physiol*, 265:E860-E865, 1993.

Cassis L. Angiotensin II in brown adipose tissue from young and adult Zucker obese and lean rats. *Amer J Physiol*. 266:E453-E458, 1994.

Shenoy U, **Cassis L.** Characterization of renin activity in brown adipose tissue. *Amer J Physiol (Cell Physiology 41)* C989-C999.

Buice R, **Cassis L**, Lodder R. Near-IR and IR imaging in lipid metabolism and obesity. *Cellular and Molecular Biology*. 44(1): 53-64, 1998.

Cassis L, Marshall D, Fetting M, Rosenbluth B, Lodder R. Mechanisms contributing to angiotensin II regulation of body weight. *Amer J of Physiol*. 274:E867-E876, 1998.

Cassis L, Laughter A, Fetting M, King V, Burke G, Akers W. Cold-exposure regulates the renin-angiotensin system. *Pharm Exp Ther*. 286:718-726, 1998.