

CART PEPTIDES: REGULATORS OF APPETITE AND ADDICTION

Kuhar, MJ

The Yerkes National Primate Research Center of Emory University
954 Gatewood Rd NE. Atlanta GA 30329, USA

It has been 10 years since the discovery of CART, and it is known to be involved in a number of physiologic processes. Among these, body weight and drug abuse have been identified as affected by CART peptides. CART inhibits feeding after injection into the brain, and injection of CART antibodies increases feeding. Mutations in the CART gene in humans have been associated with increased body weight. In studies of drug abuse, injection of CART into mesolimbic regions results in an attenuation of the effects of cocaine. Another mutation in humans associates with alcoholism. The CART system is therefore an interesting target for modifying food and drug intake. Recent advances have resulted in the identification of a CART receptor. In AtT20 cells, application of CART 55-102 results in the phosphorylation of ERK. Also, CART peptide binding is found in these cells; the binding is saturable and specific for active CART peptides. Moreover, the receptor that has been identified is a GPCR. Thus, a receptor can now be targeted for drug development. Whether or not additional CART receptors exist is unknown but seems likely. Supported by NIH grants.