# Central pressor effects of CART peptides in anesthetized rats

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摘要

## Abstract

Interrelationships between energy homeostasis and regulation of cardiovascular functions have been suggested by previous observations [Am. J. Physiol. 278 (2000) R692; Regul. Pept. 104 (2002) 75; Am. J. Physiol. 277 (1999) R1780]. Cocaine- and amphetamine-regulated transcript (CART) was first discovered in the striatum of rats treated with cocaine or amphetamine. The CART peptides were later found in the hypothalamus and functioned as anorectic peptides. We observed that intracisternally (I.C.) administered CART peptide fragments (CART 61-102 and CART 55-102) dose-dependently (1 – 4 nmol) increased heart rate and blood pressure in urethane-anesthetized adult male Sprague – Dawley rats. Intrathecal (levels T2 – T3) and intravenous administrations of these peptides, however, showed little or no effects on the heart rate and blood pressure in the rat. Furthermore, an increase of c-Fos-like immunoreactivity in the rat rostral ventrolateral medulla (RVLM) following an I.C. CART 61-102 was observed. The results suggest that central pressor effects of anorectic CART peptides may involve in activation of the medullary sympathetic systems in the rat. Our observations support the hypothesis that energy homeostasis and cardiovascular regulations are closely related and regulated.