

CART (N-20): sc-18068

BACKGROUND

The CART gene encodes for a protein which has an important role in the regulation of appetite and body weight. The CART (cocaine- and amphetamine-regulated transcript) neuropeptide is an mRNA that changes in response to psychostimulant drug administration. Injection of CART peptides into the ventral tegmental area produces psychostimulant-like effects. CART localizes to areas of the central and peripheral nervous systems and is involved in feeding behavior when injected centrally. Expression of CART in the rat hypothalamus is modulated by nutritional status, and injection of synthetic CART peptide into the forebrain ventricular system suppresses food intake, indicating a possible role in hypothalamic control of energy homeostasis. Its identification in cell bodies and central terminals of vagal afferent neurons additionally suggests a role in brainstem mechanisms of meal termination and satiety.

REFERENCES

1. Dallvechia-Adams, S., et al. 2001. CART peptide-immunoreactive projection from the nucleus accumbens targets substantia nigra pars reticulata neurons in the rat. *J. Comp. Neurol.* 434: 29-39.
2. Kuhar, M.J., et al. 2001. Genes in drug abuse. *Drug Alcohol. Depend.* 62: 157-162.
3. Barrett, P., et al. 2001. The differential regulation of CART gene expression in a pituitary cell line and primary cell cultures of ovine pars tuberalis cells. *J. Neuroendocrinol.* 13: 347-352.
4. Cowles, R.A., et al. 2001. Stimulation of rat pancreatic exocrine secretion by cocaine- and amphetamine-regulated transcript peptide. *Regul. Pept.* 99: 61-68.
5. Zheng, H., et al. 2001. Fourth ventricular injection of CART peptide inhibits short-term sucrose intake in rats. *Brain Res.* 896: 153-156.

CHROMOSOMAL LOCATION

Genetic locus: CARTPT (human) mapping to 5q13.2; Cartpt (mouse) mapping to 13 D1.

SOURCE

CART (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CART of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

CART (N-20) is recommended for detection of CART of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CART siRNA (h): sc-43664, CART siRNA (m): sc-142013, CART siRNA (r): sc-270029, CART shRNA Plasmid (h): sc-43664-SH, CART shRNA Plasmid (m): sc-142013-SH, CART shRNA Plasmid (r): sc-270029-SH, CART shRNA (h) Lentiviral Particles: sc-43664-V, CART shRNA (m) Lentiviral Particles: sc-142013-V and CART shRNA (r) Lentiviral Particles: sc-270029-V.

Molecular Weight of CART: 13 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Sadegh, M.K., et al. 2011. Biomechanical properties and innervation of the female caveolin-1-deficient detrusor. *Br. J. Pharmacol.* 162: 1156-1170.
2. Landerholm, K., et al. 2011. Cocaine- and amphetamine-regulated transcript in neuroendocrine tumors. *Neuroendocrinology* 94: 228-236.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **CART (3E4): sc-293241**, our highly recommended monoclonal alternative to CART (N-20).