ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Cocaine- and Amphetamine Related Transcript (CART/CARP) Antibodies

Cat # CART11-S	Rabbit Anti-CART Antisera # 1	**SIZE**: 100 ul
Cat # CART11-A	Rabbit Anti-CART, IgG aff pure # 1	**SIZE**: 100 ug
Cat # CART11-P	CART Control peptide #1	**SIZE**: 100 ug

Cocaine- and Amphetamine Related Transcript (CART) was initially identified using PCR differential display as mRNA whose levels in the brain was specifically induced by psychomotor stimulants such as cocaine and amphetamine. CART encodes a secretory single chain polypeptide of 129 AA or 116 AA protein due to the usage of alternate splicing and processing. The first 27 AA represents the hydrophobic core indicative of signal peptide. The CART protein also has several basic amino acids near the 54-66 residues with a potential to form multiple proteolytic forms. CART mRNA was specially enriched in the hypothalamus. In the striatum, CART expression was induced 4-5 fold by cocaine and amphetamine. CART is highly conserved between human and mouse (95% amino acid homology); CART gene was localized to human chr 5.

Most recently, CART has been found to control satiety modulating the actions of two key regulators of food intake, leptin and NPY. Starvation decreases CART levels in the arcuate nucleus. Obese animals have virtually no CART. Peripheral administration of leptin in obese animals induces CART. Intracereberoventricular injection of recombinant CART inhibits both normal and starvation-induce feeding, and completely inhibits NPY-induce feeding. Immunoneutralization of CART by administration of anti-CART resulted into higher food intake suggesting that CART is an endogenous regulator of food intake.

Source of Antigen, Antibodies, and Positive Controls

Antigen	Mouse/Rat CART (55-102 aa) from **Designation (CARTR11-P, control peptide**) conjugated to KLH
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (Cat # CART11-S) and Aff pure IgG (**cat # CART11-A**) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using ECL).

ELISA (1:10-50K; using 50-100 ng control peptide/well).

Histochemistry: We recommend the use of affinity pure IgG at 5-10 ug/ml. (see published refs using this antibody in 2).

Specificity & Cross-reactivity

The CART11-P peptide is 100% conserved in mouse, rat, sheep and 97% in human CART. Antibody crossreactivity in various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1) Douglass J et al (1995) J Neurosci. 15, 2471; (2). Douglass J (1996) Gene 169, 241; (3). Kristensen P et al (1998) Nature 393, 72.

2. Citations for ADI Antibodies (see updates at the web site)

Gustincich S, 2004 PNAS 101 , 5069-5074, IHC
Burdyga G , 2002, Neuroscience 109, 339-347, IHC,
Burdyga G, 2004, J. Neurosci., 24: 2708 – 2715, IHC,
Rothman RB, 2003 Peptides 24, 413-417

*This product is for In vitro research use only.

Related material available from ADI

Anti-Agouti, AGRP, Tubby, TUB, TULP1, TULP2, Leptin, and Melanocortin receptors 91-5), Orexin, CART

Leptin, Adiponectin, ELISA Kits
CART11-S-A-P 71218A

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