

Product Specification Sheet

Citrate synthase, mitochondrial (CS/CISY) Antibodies

Cat. # CISY11-P	Mouse/human CISY Control/blocking Peptide	SIZE: 100 ug
Cat. # CISY11-S	Rabbit Anti-Mouse/human CISY antiserum	SIZE: 100 ul
Cat. # CISY11-A	Rabbit Anti-Mouse/human CISY antiserum (aff pure)	SIZE: 100 ug

The enzyme citrate synthase (E.C. 2.3.3.1 [previously 4.1.3.7]) is a pace-maker enzyme, as it controls the first committed step of the Krebs cycle, also called the citric acid cycle. Citrate synthase is localized within cells in the mitochondrial matrix, but is encoded by nuclear DNA rather than mitochondrial. It is synthesized using cytoplasmic ribosomes, then transported into the mitochondrial matrix. Citrate synthase is commonly used as a quantitative enzyme marker for the presence of intact mitochondria. Citrate synthase catalyzes the condensation reaction of the two-carbon acetate residue from acetyl coenzyme A and a molecule of four-carbon oxaloacetate to form the six-carbon citrate. Oxaloacetate will be regenerated after the completion of one round of the Krebs Cycle.

Human CS (chromosome 12p11-qter, 466-aa precursor, mature chain 28-466 aa) encodes a 466-amino acid protein with 95% homology to its pig homolog. CS enzyme, a homodimer, is located at the Mitochondrion matrix. Citrate synthase is found in nearly all cells capable of oxidative metabolism

Source of Antigen and Antibodies

Antigen	A 17-aa peptide from mouse CS (gene accession # Q4TTW8; 466 aa) and a 20-aa peptide from human CS (gene accession # O57390; 466-aa). The mixture of the two peptide is Designated (CISY11-P or control/blocking peptide) conjugated to KLH. Epitope location ~ N-terminus
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat # CISY11-S) Aff pure IgG1 (cat #CISY11-A) purified over antigen-agarose column
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 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 in Buffer: 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 antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 1-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

Mouse and human CS antigenic peptides are highly conserved in many species: 100% in human, chimp, monkey, rabbit, opossum, canine, feline, horse, bovine, pig, zebra fish, drosophila, frog etc. Antibody cross-reactivity in various species has not been studied. 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: Goldenthal MJ (1998) Genome 41, 733-738; Winjen LMM (1977) Hum. Genet. 39, 339-344; .

(2) Citations of ADI's Antibodies for citrate synthase

Please search for publications at our web site..

Ojuka EO2003 FASEB J, 17: 675 - 681
Jones TE 2003 Am J Physiol Endocrinol Metab, 284: 96 - 101
Baar K 2002 FASEB J, 16: 1879 - 1886
Baar K 2003 FASEB J, 17: 1666 - 1673.
Horowitz J F2000 Am J Physiol Endocrinol Metab 279: 348E-355E

*This product is for In vitro research use only.

Related material available from ADI

Pre-made rat/mouse human protein Blots

CISY11-S-A-P 70713A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com