

# CPA2 (D-1): sc-515450

## BACKGROUND

Members of the M14 metallocarboxypeptidase protein family serve many diverse functions and are divided into three subfamilies based on structure, function and amino acid sequence similarity. As a member of the A/B subfamily, CPA2 (carboxypeptidase A2) is a 417 amino acid zinc-binding secreted protein that contains a characteristic propeptide at the amino-terminus, which is cleaved off upon enzyme activation. CPA2 is similar to CPA1, a pancreatic exopeptidase that catalyzes the release of C-terminal amino acids from a variety of proteins, thereby playing a key role in protein digestion and degradation. CPA1 and CPA2 differ in their substrate specificities with CPA2 preferring bulkier C-terminal residues. Expression of CPA2 has been detected in pancreas, brain, lung and testis.

## REFERENCES

1. Gardell, S.J., et al. 1988. A novel rat carboxypeptidase, CPA2: characterization, molecular cloning, and evolutionary implications on substrate specificity in the carboxypeptidase gene family. *J. Biol. Chem.* 263: 17828-17836.
2. Clauser, E., et al. 1988. Structural characterization of the rat carboxypeptidase A1 and B genes. Comparative analysis of the rat carboxypeptidase gene family. *J. Biol. Chem.* 263: 17837-17845.
3. Moulard, M., et al. 1990. Further studies on the human pancreatic binary complexes involving procarboxypeptidase A. *FEBS Lett.* 261: 179-183.

## CHROMOSOMAL LOCATION

Genetic locus: CPA2 (human) mapping to 7q32.2; Cpa2 (mouse) mapping to 6 A3.3.

## SOURCE

CPA2 (D-1) is a mouse monoclonal antibody raised against amino acids 11-50 mapping near the N-terminus of CPA2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CPA2 (D-1) is available conjugated to agarose (sc-515450 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515450 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515450 PE), fluorescein (sc-515450 FITC), Alexa Fluor® 488 (sc-515450 AF488), Alexa Fluor® 546 (sc-515450 AF546), Alexa Fluor® 594 (sc-515450 AF594) or Alexa Fluor® 647 (sc-515450 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515450 AF680) or Alexa Fluor® 790 (sc-515450 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

CPA2 (D-1) is recommended for detection of CPA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 CPA2 siRNA (h): sc-89757, CPA2 siRNA (m): sc-105240, CPA2 shRNA Plasmid (h): sc-89757-SH, CPA2 shRNA Plasmid (m): sc-105240-SH, CPA2 shRNA (h) Lentiviral Particles: sc-89757-V and CPA2 shRNA (m) Lentiviral Particles: sc-105240-V.

Molecular Weight of CPA2: 47 kDa.

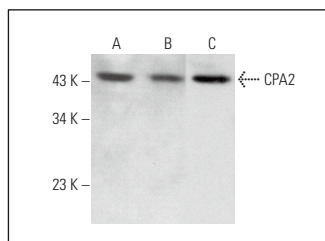
Positive Controls: Jurkat whole cell lysate: sc-2204, human brain extract: sc-364375 or rat pancreas extract: sc-364806.

## RECOMMENDED SUPPORT REAGENTS

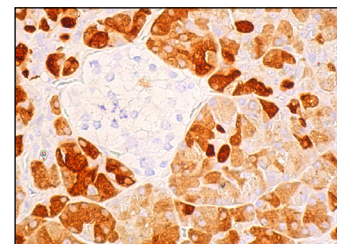
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CPA2 (D-1): sc-515450. Western blot analysis of CPA2 expression in Jurkat whole cell lysate (A) and human brain (B) and rat pancreas (C) tissue extracts.



CPA2 (D-1): sc-515450. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

## SELECT PRODUCT CITATIONS

1. Yi, Y., et al. 2023. Screening of novel serum biomarkers for gastric cancer in coastal populations using a protein microarray. *Cancer Sci.* 114: 3396-3410.

## RESEARCH USE

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