SANTA CRUZ BIOTECHNOLOGY, INC.

CPA2 (B-8): sc-393700

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 propetide 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

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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.
4. Faming, Z., et al. 1991. Structural evolution of an enzyme specificity. The structure of rat carboxypeptidase A2 at 1.9-A resolution. J. Biol. Chem. 266: 24606-24612.
5. Linder, D., et al. 1993. Separation of human pancreatic carboxypeptidase A isoenzymes by high performance liquid chromatography. Biomed. Chromatogr. 7: 143-145.
6. Normant, E., et al. 1995. Carboxypeptidase A isoforms produced by distinct genes or alternative splicing in brain and other extrapancreatic tissues. J. Biol. Chem. 270: 20543-20549.
7. Laethem, R.M., et al. 1996. Expression and characterization of human pancreatic preprocarboxypeptidase A1 and preprocarboxypeptidase A2. Arch. Biochem. Biophys. 332: 8-18.
8. Reverter, D., et al. 2000. Structure of a novel leech carboxypeptidase inhibitor determined free in solution and in complex with human carboxypeptidase A2. Nat. Struct. Biol. 7: 322-328.

CHROMOSOMAL LOCATION

Genetic locus: Cpa2 (mouse) mapping to 6 A3.3.

SOURCE

CPA2 (B-8) is a mouse monoclonal antibody raised against amino acids 1-56 mapping at the N-terminus of CPA2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CPA2 (B-8) is recommended for detection of CPA2 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CPA2 siRNA (m): sc-105240, CPA2 shRNA Plasmid (m): sc-105240-SH and CPA2 shRNA (m) Lentiviral Particles: sc-105240-V.

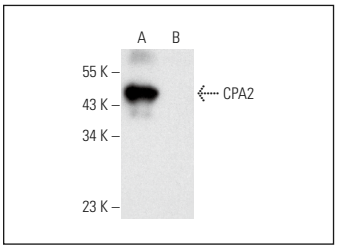
Molecular Weight of CPA2: 47 kDa.

Positive Controls: mouse pancreas extract: sc-364244.

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.

DATA



CPA2 (B-8): sc-393700. Western blot analysis of CPA2 expression in mouse pancreas (**A**) and rat pancreas (**B**) tissue extracts. Note lack of reactivity with rat CPA2 in lane **B**.

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.

PROTOCOLS

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