

CPA2 (K-14): sc-104173

BACKGROUND

Members of the M14 metalloproteinase 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 secreted, zinc-binding 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

- Gardell, S.J., Craik, C.S., Clauser, E., Goldsmith, E.J., Stewart, C.B., Graf, M. and Rutter, W.J. 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.
- Clauser, E., Gardell, S.J., Craik, C.S., MacDonald, R.J. and Rutter, W.J. 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.
- Moulard, M., Michon, T., Kerfelec, B. and Chapus, C. 1990. Further studies on the human pancreatic binary complexes involving procarboxypeptidase A. *FEBS Lett.* 261: 179-183.
- Faming, Z., Kobe, B., Stewart, C.B., Rutter, W.J. and Goldsmith, E.J. 1991. Structural evolution of an enzyme specificity. The structure of rat carboxypeptidase A2 at 1.9-Å resolution. *J. Biol. Chem.* 266: 24606-24612.
- Linder, D., Linder, M., Schade, H. and Sziegoleit, A. 1993. Separation of human pancreatic carboxypeptidase A isoenzymes by high performance liquid chromatography. *Biomed. Chromatogr.* 7: 143-145.
- Normant, E., Gros, C. and Schwartz, J.C. 1995. Carboxypeptidase A isoforms produced by distinct genes or alternative splicing in brain and other extrapancreatic tissues. *J. Biol. Chem.* 270: 20543-20549.
- Laethem, R.M., Blumenkopf, T.A., Cory, M., Elwell, L., Moxham, C.P., Ray, P.H., Walton, L.M. and Smith, G.K. 1996. Expression and characterization of human pancreatic procarboxypeptidase A1 and procarboxypeptidase A2. *Arch. Biochem. Biophys.* 332: 8-18.
- Reverter, D., Fernández-Catalán, C., Baumgartner, R., Pfänder, R., Huber, R., Bode, W., Vendrell, J., Holak, T.A. and Aviles, F.X. 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.

RESEARCH USE

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

SOURCE

CPA2 (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CPA2 of mouse 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-104173 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

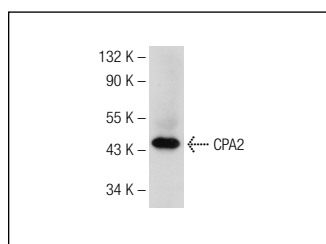
CPA2 (K-14) is recommended for detection of CPA2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other CPA family members.

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.

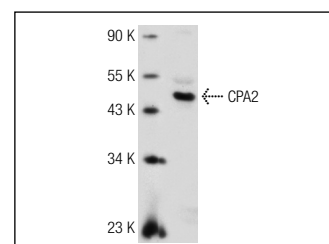
Molecular Weight of CPA2: 47 kDa.

Positive Controls: Mouse pancreas tissue extract or rat pancreas tissue extract.

DATA



CPA2 (K-14): sc-104173. Western blot analysis of CPA2 expression in rat pancreas tissue extract.



CPA2 (K-14): sc-104173. Western blot analysis of CPA2 expression in mouse pancreas tissue extract.

STORAGE

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

PROTOCOLS

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