

CPB (D-3): sc-271869

BACKGROUND

CPB (carboxypeptidase B), also known as CPB1, PASP (pancreas-specific protein) or PCPB, is a zinc-containing exopeptidase belonging to the A/B subfamily (or peptidase subfamily M14 A) of carboxypeptidases. CPB functions as a digestive carboxypeptidase and cleaves C-terminal basic amino acid residues from substrates. CPB is synthesized as an inactive zymogen in the endoplasmic reticulum of pancreatic acinar cells. It is then packaged into secretory granules and secreted into the lumen upon acinar cell stimulation. In the duodenum, CPB is activated by the cleavage of its N-terminal activation peptide (also known as CAPAP). CPB is widely recognized as a useful serum marker for acute pancreatitis and pancreatic graft rejection.

REFERENCES

1. Yamamoto, K.K., et al. 1992. Isolation of a cDNA encoding a human serum marker for acute pancreatitis. Identification of pancreas-specific protein as pancreatic procarboxypeptidase B. *J. Biol. Chem.* 267: 2575-2581.
2. Fernstad, R., et al. 1993. Isoforms of procarboxypeptidase B, (pancreas-specific protein, PASP) in human serum, pancreatic tissue and juice. *Scand. J. Clin. Lab. Invest. Suppl.* 213: 9-17.
3. Pezilli, R., et al. 1994. Human pancreas-specific protein/procarboxypeptidase B: a useful serum marker of acute pancreatitis. *Digestion* 55: 73-77.
4. Rau, B., et al. 1998. The clinical value of human pancreas-specific protein procarboxypeptidase B as an indicator of necrosis in acute pancreatitis: comparison to CRP and LDH. *Pancreas* 17: 134-139.
5. Aloy, P., et al. 1998. Comparative analysis of the sequences and three-dimensional models of human procarboxypeptidases A1, A2 and B. *Biol. Chem.* 379: 149-155.

CHROMOSOMAL LOCATION

Genetic locus: CPB1 (human) mapping to 3q24; Cpb1 (mouse) mapping to 3 A2.

SOURCE

CPB (D-3) is a mouse monoclonal antibody raised against amino acids 306-358 mapping within an internal region of CPB of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CPB (D-3) is available conjugated to agarose (sc-271869 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271869 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271869 PE), fluorescein (sc-271869 FITC), Alexa Fluor® 488 (sc-271869 AF488), Alexa Fluor® 546 (sc-271869 AF546), Alexa Fluor® 594 (sc-271869 AF594) or Alexa Fluor® 647 (sc-271869 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271869 AF680) or Alexa Fluor® 790 (sc-271869 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CPB (D-3) is recommended for detection of CPB 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 CPB siRNA (h): sc-77970, CPB siRNA (m): sc-142541, CPB shRNA Plasmid (h): sc-77970-SH, CPB shRNA Plasmid (m): sc-142541-SH, CPB shRNA (h) Lentiviral Particles: sc-77970-V and CPB shRNA (m) Lentiviral Particles: sc-142541-V.

Molecular Weight of CPB proenzyme: 45 kDa.

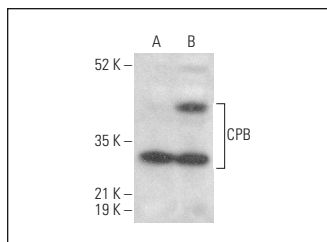
Molecular Weight of CPB active enzyme: 35 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or MIA PaCa-2 whole cell lysate: sc-2285.

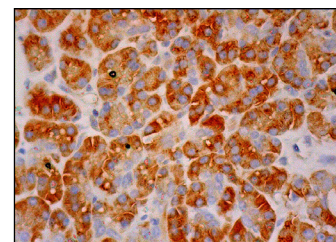
RECOMMENDED SUPPORT REAGENTS

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



CPB (D-3): sc-271869. Western blot analysis of CPB expression in MIA PaCa-2 (A) and HeLa (B) whole cell lysates.



CPB (D-3): sc-271869. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells.

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.