SANTA CRUZ BIOTECHNOLOGY, INC.

CCK-4 (WW02): sc-100304

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cholecystokinin (CCK) is a brain/gut peptide and, in the gut, it induces the release of pancreatic enzymes and the contraction of the gallbladder. The CCK precursor is cleaved to produce active peptides, including CCK58. CCK-4 is a Type I membrane protein belonging to the Tyr family of protein kinases, Insulin receptor subfamily. CCK-4 lacks the typical tyrosine kinase catalytic activity and may be involved in cell adhesion. CCK-4 is a potential tumor progression marker and putatively involved in colon carcinoma pathophysiology. It is mainly expressed in pancreas, liver, lung, placenta, kidney and melanocytes. It is not expressed in colon but may be detected in erythroleukemia cells.

REFERENCES

1. Lee, S.T., et al. 1993. A survey of protein tyrosine kinase mRNAs expressed in normal human melanocytes. Oncogene 8: 3403-3410.
2. Mossie, K., et al. 1995. Colon carcinoma kinase-4 defines a new subclass of the receptor tyrosine kinase family. Oncogene 11: 2179-2184.
3. Park, S.K., et al. 1996. Characterization of the human full-length PTK7 cDNA encoding a receptor protein tyrosine kinase-like molecule closely related to chick KLG. J. Biochem. 119: 235-239.
4. Banga, S.S., et al. 1997. Assignment of PTK7 encoding a receptor protein tyrosine kinase-like molecule to human chromosome 6p21.1→p12.2 by fluorescence *in situ* hybridization. Cytogenet. Cell Genet. 76: 43-44.
5. Easty, D.J., et al. 1997. Loss of expression of receptor tyrosine kinase family genes PTK7 and SEK in metastatic melanoma. Int. J. Cancer 71: 1061-1065.
6. Jung, J.W., et al. 2002. Organization of the human PTK7 gene encoding a receptor protein tyrosine kinase-like molecule and alternative splicing of its mRNA. Biochim. Biophys. Acta 1579: 153-163.
7. Lu, X., et al. 2004. PTK7/CCK-4 is a novel regulator of planar cell polarity in vertebrates. Nature 430: 93-98.
8. Daigo, Y., et al. 2004. Isolation of novel mouse genes that were differentially expressed in W/W^V mouse fundus. J. Gastroenterol. 39: 238-241.

CHROMOSOMAL LOCATION

Genetic locus: PTK7 (human) mapping to 6p21.1; Ptk7 (mouse) mapping to 17 C.

SOURCE

CCK-4 (WW02) is a mouse monoclonal antibody raised against recombinant CCK-4 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CCK-4 (WW02) is recommended for detection of mature CCK-4 and CCK-4 precursor of mouse, rat and human 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).

Suitable for use as control antibody for CCK-4 siRNA (h): sc-105188, CCK-4 siRNA (m): sc-142165, CCK-4 shRNA Plasmid (h): sc-105188-SH, CCK-4 shRNA Plasmid (m): sc-142165-SH, CCK-4 shRNA (h) Lentiviral Particles: sc-105188-V and CCK-4 shRNA (m) Lentiviral Particles: sc-142165-V.

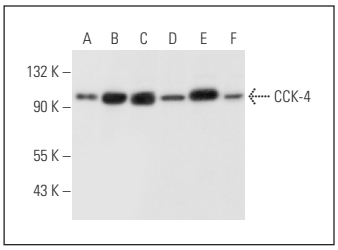
Molecular Weight of CCK-4: 118 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

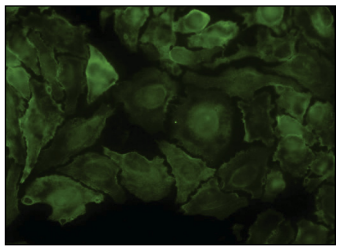
RECOMMENDED SUPPORT REAGENTS

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



CCK-4 (WW02): sc-100304. Western blot analysis of CCK-4 expression in A549 (**A**), A431 (**B**), HeLa (**C**), Hep G2 (**D**), MCF7 (**E**) and Rat2 (**F**) whole cell lysates.



CCK-4 (WW02): sc-100304. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Jin, X., et al. 2021. Protein tyrosine kinase 7-knockdown inhibits oral squamous cell carcinoma cell viability, proliferation, migration and invasion via downregulating dishevelled segment polarity protein 3 expression. Exp. Ther. Med. 22: 1372.

STORAGE

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