

SCCA2 (10C12): sc-21793

BACKGROUND

Metastasis of a primary tumor to a distant site is determined through signaling cascades that break down interactions between the cell and extracellular matrix proteins. Among the proteins mediating metastasis are serine proteases, such as neutrophil elastase. In 1985, Dr. Jim Travis and Dr. R.W. Carrell designated an emerging family of serine protease inhibitors as the serpin family, which share homology in both primary amino acid sequence and tertiary structure. Serpins contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. Serine proteases bind to this substrate mimic in a 1:1 stoichiometric fashion and become catalytically inactive. Aberrant expression of serpin family members can contribute to a number of conditions, including emphysema (α -1 antitrypsin deficiency), fatal bleeding (elastase to thrombin specificity) and thrombosis (antithrombin deficiency), and are indicators of cancer stage phenotypes (circulating levels of squamous cell carcinoma antigen, known as SCCA1, increase in advancing stages of some cervical, lung, esophageal, and head and neck cancers). Human chromosome position 18q21.33 contains a cluster of serpins, including a tandem duplication of the SCCA gene, plasminogen activator inhibitor type 2 and maspin. SCCA is transcribed by two nearly identical genes (SCCA1 and SCCA2), and is mainly produced as SCCA1. The human SCCA1 gene encodes a 390 amino acid protein that was originally isolated from a metastatic cervical squamous cell carcinoma.

REFERENCES

1. Kato, H. and Torigoe, T. 1977. Radioimmunoassay for tumor antigen of human cervical squamous cell carcinoma. *Cancer* 40: 1621-1628.
2. Online Mendelian Inheritance in Man, OMIM[™]. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 600517. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: SERPINB4 (human) mapping to 18q21.33.

SOURCE

SCCA2 (10C12) is a mouse monoclonal antibody raised against recombinant human SCCA2.

PRODUCT

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

SCCA2 (10C12) is available conjugated to agarose (sc-21793 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-21793 PE), fluorescein (sc-21793 FITC), Alexa Fluor[®] 488 (sc-21793 AF488), Alexa Fluor[®] 546 (sc-21793 AF546), Alexa Fluor[®] 594 (sc-21793 AF594) or Alexa Fluor[®] 647 (sc-21793 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-21793 AF680) or Alexa Fluor[®] 790 (sc-21793 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

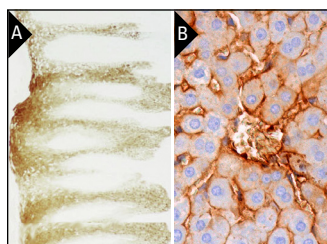
Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

SCCA2 (10C12) is recommended for detection of SCCA2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SCCA2 siRNA (h): sc-40951, SCCA2 shRNA Plasmid (h): sc-40951-SH and SCCA2 shRNA (h) Lentiviral Particles: sc-40951-V.

DATA



SCCA2 (10C12): sc-21793. Immunoperoxidase staining of paraffin-embedded human psoriatic skin tissue. Kindly provided by Dr. Gary Silverman of Children's Hospital, Boston (A) and human liver tissue showing cytoplasmic staining of hepatic sinusoids (B).

SELECT PRODUCT CITATIONS

1. Yamane, Y., et al. 2009. New horny layer marker proteins for evaluating skin condition in atopic dermatitis. *Int. Arch. Allergy Immunol.* 150: 89-101.
2. Chechliniska, M., et al. 2010. Squamous cell carcinoma antigen 1 and 2 expression in cultured normal peripheral blood mononuclear cells and in vulvar squamous cell carcinoma. *Tumour Biol.* 31: 559-567.
3. Catanzaro, J.M., et al. 2011. Elevated expression of squamous cell carcinoma antigen (SCCA) is associated with human breast carcinoma. *PLoS ONE* 6: e19096.
4. Deng, Z., et al. 2012. Prognostic value of human papillomavirus and squamous cell carcinoma antigen in head and neck squamous cell carcinoma. *Cancer Sci.* 103: 2127-2134.

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.

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