SANTA CRUZ BIOTECHNOLOGY, INC.

SCCA1 (8H11): sc-21767

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 18q21.3 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.

CHROMOSOMAL LOCATION

Genetic locus: SERPINB3 (human) mapping to 18q21.33.

SOURCE

SCCA1 (8H11) is a mouse monoclonal antibody raised against recombinant human SCCA1.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21767 X, 200 µg/0.1 ml.

SCCA1 (8H11) is available conjugated to agarose (sc-21767 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-21767 PE), fluorescein (sc-21767 FITC), Alexa Fluor® 488 (sc-21767 AF488), Alexa Fluor® 546 (sc-21767 AF546), Alexa Fluor® 594 (sc-21767 AF594) or Alexa Fluor® 647 (sc-21767 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-21767 AF680) or Alexa Fluor® 790 (sc-21767 AF790), 200 µg/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.

PROTOCOLS

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

APPLICATIONS

SCCA1 (8H11) is recommended for detection of SCCA1 of 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

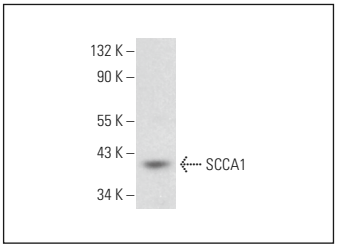
Suitable for use as control antibody for SCCA1 siRNA (h): sc-40950, SCCA1 shRNA Plasmid (h): sc-40950-SH and SCCA1 shRNA (h) Lentiviral Particles: sc-40950-V.

SCCA1 (8H11) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of SCCA1: 45 kDa.

Positive Controls: NCI-H292 whole cell lysate: sc-364179.

DATA



SCCA1 (8H11): sc-21767. Western blot analysis of SCCA1 expression in NCI-H292 whole cell lysate.

SCCA1 (8H11): sc-21767. Immunoperoxidase staining of paraffin-embedded human psoratic skin tissue. Kindly provided by Dr. Gary Silverman of Children's Hospital, Boston.

SELECT PRODUCT CITATIONS

1. Qi, Y., et al. 2005. Comparative proteomic analysis of esophageal squamous cell carcinoma. Proteomics 5: 2960-2971.
2. 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.
3. Turato, C., et al. 2014. SERPINB3 is associated with TGF-β1 and cytoplasmic β-catenin expression in hepatocellular carcinomas with poor prognosis. Br. J. Cancer 110: 2708-2715.
4. Cannito, S., et al. 2015. Hypoxia up-regulates SERPINB3 through HIF-2α in human liver cancer cells. Oncotarget 6: 2206-2221.
5. Terrin, L., et al. 2017. SERPINB3 upregulates the cyclooxygenase-2/ β-catenin positive loop in colorectal cancer. Oncotarget 8: 15732-15743.
6. Foglia, B., et al. 2022. Hepatocyte-specific deletion of HIF2α prevents NASH-related liver carcinogenesis by decreasing cancer cell proliferation. Cell. Mol. Gastroenterol. Hepatol. 13: 459-482.

RESEARCH USE

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