

SCCA1/2 (B-9): sc-28384

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: SERPINB3/SERPINB4 (human) mapping to 18q21.33.

SOURCE

SCCA1/2 (B-9) is a mouse monoclonal antibody raised against amino acids 1-390 representing full length SCCA2 of human origin.

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.

SCCA1/2 (B-9) is available conjugated to agarose (sc-28384 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28384 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28384 PE), fluorescein (sc-28384 FITC), Alexa Fluor® 488 (sc-28384 AF488), Alexa Fluor® 546 (sc-28384 AF546), Alexa Fluor® 594 (sc-28384 AF594) or Alexa Fluor® 647 (sc-28384 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28384 AF680) or Alexa Fluor® 790 (sc-28384 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

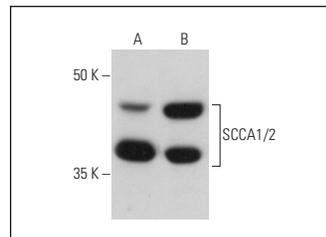
SCCA1/2 (B-9) is recommended for detection of SCCA1 and SCCA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 SCCA1/2 siRNA (h): sc-44087, SCCA1/2 shRNA Plasmid (h): sc-44087-SH and SCCA1/2 shRNA (h) Lentiviral Particles: sc-44087-V.

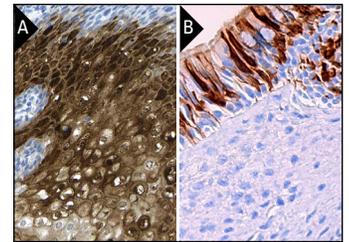
Molecular Weight of SCCA1/2: 45 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, NCI-H292 whole cell lysate: sc-364179 or SCC-4 whole cell lysate: sc-364363.

DATA



SCCA1/2 (B-9): sc-28384. Western blot analysis of SCCA1/2 expression in SCC-4 (A) and NCI-H292 (B) whole cell lysates.



SCCA1/2 (B-9): sc-28384. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells. Blocking reagent used: UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

1. Jin, Y., et al. 2018. Use of protein-based biomarkers of exfoliated cervical cells for primary screening of cervical cancer. *Arch. Pharm. Res.* 41: 438-449.

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.

PROTOCOLS

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