

SCCA2 (39): sc-130343

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.

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/>
3. Hefler, L., et al. 1999. Serum concentrations of squamous cell carcinoma antigen in patients with vulvar intraepithelial neoplasia and vulvar cancer. *Int. J. Cancer* 84: 299-303.
4. Kishimoto, H., et al. 2000. Isolation and characterization of adenoid squamous carcinoma cells highly producing SCC antigen and CEA from carcinoma of the maxillary sinus. *Oral Oncol.* 36: 70-75.
5. Micke, O., et al. 2000. The impact of squamous cell carcinoma (SCC) antigen in the follow-up after radiotherapy in patients with cervical cancer. *Anticancer Res.* 20: 5113-5115.
6. Suminami, Y., et al. 2001. Novel forms of squamous cell carcinoma antigen transcripts produced by alternative splicing. *Biochim. Biophys. Acta* 1519: 122-126.

CHROMOSOMAL LOCATION

Genetic locus: SERPINB4 (human) mapping to 18q21.33; Serpinb3a (mouse) mapping to 1 E2.1.

SOURCE

SCCA2 (39) is a mouse monoclonal antibody raised against recombinant 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.

APPLICATIONS

SCCA2 (39) is recommended for detection of SCCA2 of human origin, Serpinb3a of mouse origin and the corresponding rat homolog 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

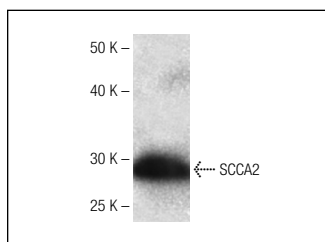
Suitable for use as control antibody for SCCA2 siRNA (h): sc-40951, Serpinb3a siRNA (m): sc-153369, SCCA2 shRNA Plasmid (h): sc-40951-SH, Serpinb3a shRNA Plasmid (m): sc-153369-SH, SCCA2 shRNA (h) Lentiviral Particles: sc-40951-V and Serpinb3a shRNA (m) Lentiviral Particles: sc-153369-V.

Positive Controls: C2C12 whole cell lysate: sc-364188.

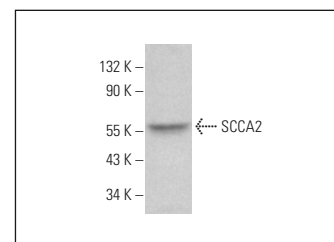
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



SCCA2 (39): sc-130343. Western blot analysis of human recombinant SCCA2.



SCCA2 (39): sc-130343. Western blot analysis of SCCA2 expression in C2C12 whole cell lysate.

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.



See **SCCA1/2 (B-9): sc-28384** for SCCA1/2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.