SANTA CRUZ BIOTECHNOLOGY, INC.

KAI 1 (C-16): sc-1087

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transmembrane 4 superfamily (TM4SF) is a family of leukocyte surface glycoproteins that presumably cross the cell membrane four times. These proteins may be involved in transmembrane signal transduction regulation of cell proliferation, differentiation and motility. Members of this family, which include CD9, CD37, CD53, CD63, CD82 and TAPA-1, share significant sequence homology and an extracellular N-glycosylated domain, implicating these proteins as metastasis suppressors. Only three members of this family have been correlated with metastasis: CD9, CD63 and CD82, also known as KAI 1. KAI 1 is evolutionarily conserved and expressed in a broad range of human tissues, but exhibits reduced expression in human cell lines derived from metastatic prostate tumors. It has been suggested that decreased KAI 1 expression may be involved in the malignant progression of prostate and perhaps other cancers.

CHROMOSOMAL LOCATION

Genetic locus: CD82 (human) mapping to 11p11.2; Cd82 (mouse) mapping to 2 E1.

SOURCE

KAI 1 (C-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of KAI 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1087 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KAI 1 (C-16) is recommended for detection of KAI 1 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), 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).

KAI 1 (C-16) is also recommended for detection of KAI 1 in additional species, including equine and canine.

Suitable for use as control antibody for KAI 1 siRNA (h): sc-35734, KAI 1 siRNA (m): sc-35733, KAI 1 shRNA Plasmid (h): sc-35734-SH, KAI 1 shRNA Plasmid (m): sc-35733-SH, KAI 1 shRNA (h) Lentiviral Particles: sc-35734-V and KAI 1 shRNA (m) Lentiviral Particles: sc-35733-V.

Molecular Weight of KAI 1: 46 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or K-562 whole cell lysate: sc-2203.

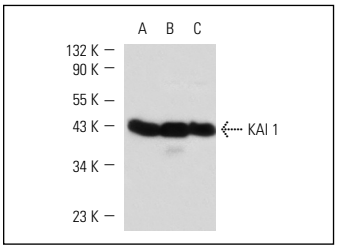
RESEARCH USE

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

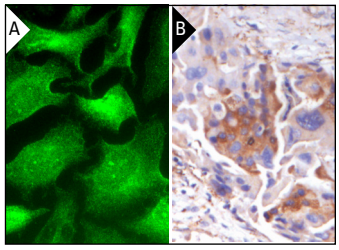
STORAGE

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

DATA



KAI 1 (C-16): sc-1087. Western blot analysis of KAI 1 expression in Jurkat (**A**), K-562 (**B**) and HL-60 (**C**) whole cell lysates.



KAI 1 (C-16): sc-1087. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing membrane and cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Mashimo, T., et al. 1998. The expression of the KAI 1 gene, a tumor metastasis suppressor, is directly activated by p53. Proc. Natl. Acad. Sci. USA 95: 11307-11311.
2. Gellersen, B. and Briese, J. 2007. Expression of the metastasis suppressor KAI1 in decidual cells at the human maternal-fetal interface. Am. J. Pathol. 170: 126-139.
3. Bao, J., et al. 2007. Suppression of β-amyloid precursor protein signaling into the nucleus by estrogens mediated through complex formation between the estrogen receptor and Fe65. Mol. Cell. Biol. 27: 1321-1333.
4. Guan-Zhen, Y., et al. 2007. Reduced protein expression of metastasis-related genes (nm23, KISS1, KAI1 and p53) in lymph node and liver metastases of gastric cancer. Int. J. Exp. Pathol. 88: 175-183.
5. Crawford, N.P., et al. 2008. The diasporin pathway: a tumor progression-related transcriptional network that predicts breast cancer survival. Clin. Exp. Metastasis 25: 357-369.
6. Abe, M., et al. 2008. A novel function of CD82/KAI-1 on E-cadherin-mediated homophilic cellular adhesion of cancer cells. Cancer Lett. 266: 163-170.
7. Joshi, B., et al. 2010. A role for KAI1 in promotion of cell proliferation and mammary gland hyperplasia by the gp78 ubiquitin ligase. J. Biol. Chem. 285: 8830-8839.