SANTA CRUZ BIOTECHNOLOGY, INC.

CAS (N-19): sc-1709

BACKGROUND

Cellular apoptosis susceptibility protein (CAS), also called Exportin 2, is a 971 amino acid member of the CSE1 family. CAS mediates Importin α re-export from the nucleus to the cytoplasm after import substrates have been released into the nucleoplasm. In the nucleus, CAS binds cooperatively to Importin α and to the GTPase Ran in its GTP-bound (active) form. This complex binds to nucleoporins as it docks to the nuclear pore complex. Once in the cytoplasm, the complex dissociates and Importin α is released and CAS returns to the nuclear compartment and the process begins anew. CAS can be detected highly in proliferating cells. Three isoforms of CAS have been named due to alternative splicing. Isoform 1 is the full length, 971 amino acid protein. Isoform 2 contains an alternative sequence for amino acids 190-195 and is missing amino acids 196-971. Isoform 3 contains an alternative sequence for amino acids 943-945 and is missing amino acids 946-971.

REFERENCES

1. King, K.L., et al. 1995. Cell cycle and apoptosis: common pathways to life and death. J. Cell. Biochem. 58: 175-180.
2. Columbano, A. 1995. Cell death: current difficulties in discriminating apoptosis from necrosis in the context of pathological processes *in vivo*. J. Cell. Biochem. 58: 181-190.
3. Brinkmann, U., et al. 1995. Cloning and characterization of a cellular apoptosis susceptibility gene, the human homologue to the yeast chromosome segregation gene CSE1. Proc. Natl. Acad. Sci. USA 92: 10427-10431.
4. Eastman, A. 1995. Survival factors, intracellular signal transduction, and the activation of endonucleases in apoptosis. Sem. Cancer Biol. 6: 45-52.
5. McDonnell, T.J., et al. 1995. Implications of apoptotic cell death regulation in cancer therapy. Sem. Cancer Biol. 6: 53-60.

CHROMOSOMAL LOCATION

Genetic locus: CSE1L (human) mapping to 20q13.13; Cse1l (mouse) mapping to 2 H3.

SOURCE

CAS (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CAS 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-1709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

CAS (N-19) is recommended for detection of CAS 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).

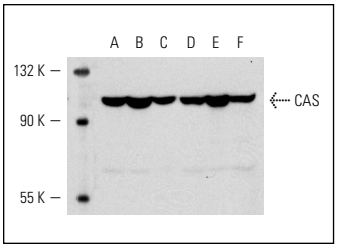
CAS (N-19) is also recommended for detection of CAS in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CAS siRNA (h): sc-29908, CAS siRNA (m): sc-29909, CAS shRNA Plasmid (h): sc-29908-SH, CAS shRNA Plasmid (m): sc-29909-SH, CAS shRNA (h) Lentiviral Particles: sc-29908-V and CAS shRNA (m) Lentiviral Particles: sc-29909-V.

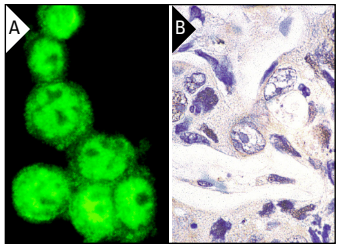
Molecular Weight of CAS: 100 kDa.

Positive Controls: CAS (h): 293T Lysate: sc-177025, SW480 nuclear extract: sc-2155 or NIH/3T3 whole cell lysate: sc-2210.

DATA



CAS (N-19): sc-1709. Western blot analysis of CAS expression in NIH/3T3 (**A**), RAW 264.7 (**B**) and MM-142 (**C**) nuclear extracts and EOC 20 (**D**), F9 (**E**) and c4 (**F**) whole cell lysates.



CAS (N-19): sc-1709. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tumor showing selective cell staining (**B**).

SELECT PRODUCT CITATIONS

1. Ouellet, V. 2005. Discrimination between serous low malignant potential and invasive epithelial ovarian tumors using molecular profiling. Oncogene 24: 4672-4687.
2. Ouellet, V., et al. 2006. Tissue array analysis of expression microarray candidates identifies markers associated with tumor grade and outcome in serous epithelial ovarian cancer. Int. J. Cancer 119: 599-607.

PROTOCOLS

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