SANTA CRUZ BIOTECHNOLOGY, INC.

CAS (C-20): sc-1708

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

CAS (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-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-1708 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CAS (C-20) 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 (C-20) 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: HeLa nuclear extract: sc-2120, SW480 nuclear extract: sc-2155 or MOLT-4 nuclear extract: sc-2151.

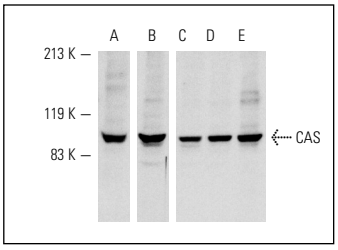
RESEARCH USE

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

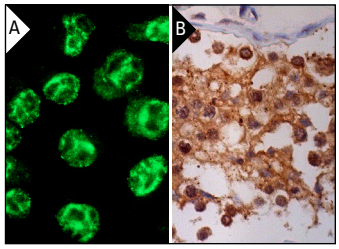
STORAGE

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

DATA



Western blot analysis of CAS in SW480 (**A**,**B**), A549 (**C**), MOLT-4 (**D**) and HeLa (**E**) nuclear extracts. Antibodies tested include CAS (C-20): sc-1708 (**A**) and CAS (N-19): sc-1709 (**B-E**).



CAS (C-20): sc-1708. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**).Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts (**B**).

SELECT PRODUCT CITATIONS

1. Sato, K., et al. 2003. Spike formation by fibroblasts adhering to fibrillar collagen I gel. Cell Struct. Funct. 28: 229-241.
2. Furuta, M., et al. 2004. Heat-shock induced nuclear retention and recycling inhibition of importin α. Genes Cells 9: 429-441.
3. Kodiha, M., et al. 2008. Dissection of the molecular mechanisms that control the nuclear accumulation of transport factors importin-α and CAS in stressed cells. Cell. Mol. Life Sci. 65: 1756-1767.
4. Kodiha, M., et al. 2008. Oxidative stress mislocalizes and retains transport factor importin-α and nucleoporins Nup153 and Nup88 in nuclei where they generate high molecular mass complexes. Biochim. Biophys. Acta 1783: 405-418.
5. Yudin, D., et al. 2008. Localized regulation of axonal RanGTPase controls retrograde injury signaling in peripheral nerve. Neuron 59: 241-252.
6. Kodiha, M., et al. 2009. Dissecting the signaling events that impact classical nuclear import and target nuclear transport factors. PLoS ONE 4: e8420.
7. Raskopf, E., et al. 2010. Inhibition of neuropilin-1 by RNA-interference and its angiostatic potential in the treatment of hepatocellular carcinoma. Z. Gastroenterol. 48: 21-27.

PROTOCOLS

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