

CAS (WW03): sc-101226

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. 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.
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. Hengartner, M.O. 1995. Out-of-body experiences: cell-free cell death. *Bioessays* 17: 549-552.
4. King, K.L., et al. 1995. Cell cycle and apoptosis: common pathways to life and death. *J. Cell. Biochem.* 58: 175-180.
5. Kroemer, G., et al. 1995. The biochemistry of programmed cell death. *FASEB J.* 9: 1277-1287.
6. Eastman, A. 1995. Survival factors, intracellular signal transduction, and the activation of endonucleases in apoptosis. *Semin. Cancer Biol.* 6: 45-52.
7. McDonnell, T.J., et al. 1995. Implications of apoptotic cell death regulation in cancer therapy. *Semin. Cancer Biol.* 6: 53-60.

CHROMOSOMAL LOCATION

Genetic locus: CSE1L (human) mapping to 20q13.13.

SOURCE

CAS (WW03) is a mouse monoclonal antibody raised against recombinant CAS of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

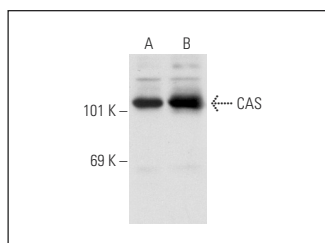
CAS (WW03) is recommended for detection of CAS of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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 CAS siRNA (h): sc-29908, CAS shRNA Plasmid (h): sc-29908-SH and CAS shRNA (h) Lentiviral Particles: sc-29908-V.

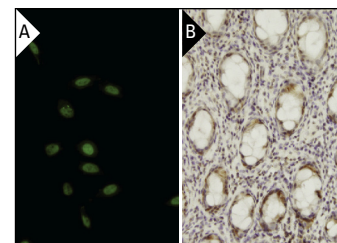
Molecular Weight of CAS: 100 kDa.

Positive Controls: CAS (h): 293T Lysate: sc-111651, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

DATA



CAS (WW03): sc-101226. Western blot analysis of CAS expression in non-transfected: sc-117752 (A) and human CAS transfected: sc-111651 (B) 293T whole cell lysates.



CAS (WW03): sc-101226. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue showing nuclear and cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Nishimura, A.L., et al. 2010. Nuclear import impairment causes cytoplasmic *trans*-activation response DNA-binding protein accumulation and is associated with frontotemporal lobar degeneration. *Brain* 133: 1763-1771.

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.