

DAP-5 (35): sc-135999

BACKGROUND

Death-associated protein 5 (DAP-5) (also known as p97 and NAT1) is a member of the eukaryotic translation initiation factor-4G (eIF4G) family. DAP-5 is ubiquitously expressed and is highly conserved among species. In response to activated FAS or p53, caspase cleaves DAP-5 at position 790 to yield a C-terminal truncated protein, which is capable of forming complexes with eIF4A and eIF3. DAP-5 has homology to the carboxy-terminal portion of eIF4G, but lacks the N-terminal region of eIF4G, which is responsible for association with the CAP binding protein eIF4E. By forming translationally inactive complexes with eIF4A and eIF3, but not with eIF4E, DAP-5 functions as a general repressor of translation. During apoptosis, the caspase-activated DAP-5 can mediate CAP-independent translation at least from its own internal ribosome entry site, thus resulting in a positive feedback loop responsible for the continuous translation of DAP-5. DAP-5 is also required for cellular differentiation, as it controls specific gene expression pathways.

REFERENCES

1. Levy-Strumpf, N., et al. 1997. DAP-5, a novel homolog of eukaryotic translation initiation factor 4G isolated as a putative modulator of γ interferon-induced programmed cell death. *Mol. Cell. Biol.* 17: 1615-1625.
2. Yamanaka, S., et al. 1997. A novel translational repressor mRNA is edited extensively in livers containing tumors caused by the transgene expression of the apoB mRNA-editing enzyme. *Genes Dev.* 11: 321-333.
3. Imataka, H., et al. 1997. A new translational regulator with homology to eukaryotic translation initiation factor 4G. *EMBO J.* 16: 817-825.
4. Levy-Strumpf, N., et al. 1998. Death associated proteins (DAPs): from gene identification to the analysis of their apoptotic and tumor suppressive functions. *Oncogene* 17: 3331-3340.
5. Henis-Korenblit, S., et al. 2000. A novel form of DAP-5 protein accumulate in apoptotic cells as a result of caspase cleavage and internal ribosome entry site-mediated translation. *Mol. Cell. Biol.* 20: 496-506.
6. Yamanaka, S., et al. 2000. Essential role of NAT1/p97/DAP-5 in embryonic differentiation and the retinoic acid pathway. *EMBO J.* 19: 5533-5541.
7. Wittke, I., et al. 2001. DAP-5 is involved in MycN/IFN γ -induced apoptosis in human neuroblastoma cells. *Cancer Lett.* 162: 237-243.
8. Henis-Korenblit, S., et al. 2002. The caspase-cleaved DAP-5 protein supports internal ribosome entry site-mediated translation of death proteins. *Proc. Natl. Acad. Sci. USA* 99: 5400-5405.
9. Marash, L., et al. 2005. DAP5 and IRES-mediated translation during programmed cell death. *Cell Death Differ.* 12: 554-562.

CHROMOSOMAL LOCATION

Genetic locus: EIF4G2 (human) mapping to 11p15.3; Eif4g2 (mouse) mapping to 7 F1.

SOURCE

DAP-5 (35) is a mouse monoclonal antibody raised against amino acids 672-830 of DAP-5 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

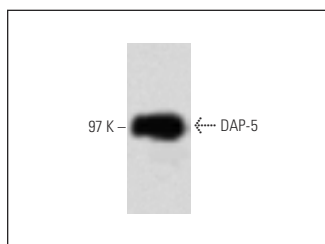
DAP-5 (35) is recommended for detection of DAP-5 of mouse, rat, human, bovine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for DAP-5 siRNA (h): sc-35169, DAP-5 siRNA (m): sc-35170, DAP-5 shRNA Plasmid (h): sc-35169-SH, DAP-5 shRNA Plasmid (m): sc-35170-SH, DAP-5 shRNA (h) Lentiviral Particles: sc-35169-V and DAP-5 shRNA (m) Lentiviral Particles: sc-35170-V.

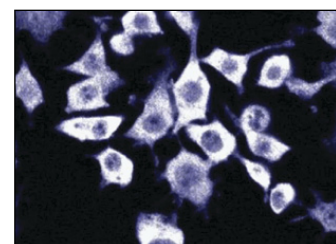
Molecular Weight of DAP-5: 97 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 nuclear extract: sc-2149 or K-562 nuclear extract: sc-2130.

DATA



DAP-5 (35): sc-135999. Western blot analysis of DAP-5 expression in HeLa whole cell lysate.



DAP-5 (35): sc-135999. Immunofluorescence staining of mouse macrophage cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Štalekar, M., et al. 2015. Proteomic analyses reveal that loss of TDP-43 affects RNA processing and intracellular transport. *Neuroscience* 293: 157-170.

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. Not for resale.

PROTOCOLS

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