

DAP-5 (B-8): sc-137131

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 DAP5 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.

CHROMOSOMAL LOCATION

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

SOURCE

DAP-5 (B-8) is a mouse monoclonal antibody raised against amino acids 608-907 mapping at the C-terminus of DAP-5 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of 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

DAP-5 (B-8) is recommended for detection of DAP-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DAP-5 (B-8) is also recommended for detection of DAP-5 in additional species, including canine, bovine and porcine.

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.

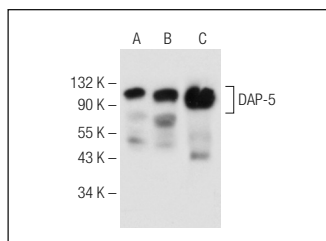
Molecular Weight of DAP-5: 97 kDa.

Positive Controls: human skeletal muscle extract: sc-363776, human heart extract: sc-363763 or K-562 nuclear extract: sc-2130.

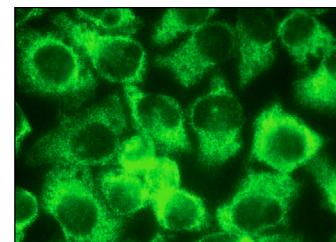
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DAP-5 (B-8): sc-137131. Western blot analysis of DAP-5 expression in human skeletal muscle (A) and human heart (B) tissue extracts and K-562 nuclear extract (C).



DAP-5 (B-8): sc-137131. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.