SANTA CRUZ BIOTECHNOLOGY, INC.

DAP-5 (F-2): sc-137011

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 apotosis, 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.

CHROMOSOMAL LOCATION

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

SOURCE

DAP-5 (F-2) 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 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DAP-5 (F-2) is available conjugated to agarose (sc-137011 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137011 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137011 PE), fluorescein (sc-137011 FITC), Alexa Fluor® 488 (sc-137011 AF488), Alexa Fluor® 546 (sc-137011 AF546), Alexa Fluor® 594 (sc-137011 AF594) or Alexa Fluor® 647 (sc-137011 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137011 AF680) or Alexa Fluor® 790 (sc-137011 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

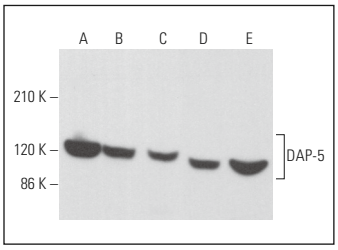
DAP-5 (F-2) is recommended for detection of DAP-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500),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

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.

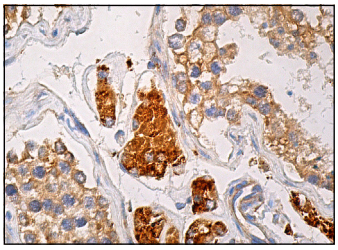
Molecular Weight of DAP-5: 97 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SW480 cell lysate: sc-2219 or K-562 whole cell lysate: sc-2203.

DATA



DAP-5 (F-2): sc-137011. Western blot analysis of DAP-5 expression in MCF7 (**A**), SW480 (**B**), K-562 (**C**), Hep G2 (**D**) and A-431 (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



DAP-5 (F-2): sc-137011. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Haizel, S.A., et al. 2020. 5'-UTR recruitment of the translation initiation factors eIF4GI or DAP5 drives cap-independent translation of a subset of human mRNAs. J. Biol. Chem. 295: 11693-11706.
2. Fan, H., et al. 2022. IRES-mediated Wnt2 translation in apoptotic neurons triggers astrocyte dedifferentiation. NPJ Regen. Med. 7: 42.

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.

PROTOCOLS

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