

DJ-1 (A-9): sc-55573

BACKGROUND

The DJ-1 gene encodes a highly-conserved protein which is implicated in a number of cell processes. DJ-1 was first identified as a novel oncogene that transformed mouse NIH/3T3 cells in cooperation with activated Ras. Additionally, DJ-1 was cloned in rat as SP22 or CAP-1 and found to be an infertility-related sperm protein, whose expression is reduced in sperm treated with toxicants. DJ-1 also positively regulates the androgen receptor (AR) by forming a complex with PIAS α , a negative regulator of AR. The gene encoding human DJ-1 maps to chromosome 1p36.23, a region identified as a hot spot of chromosome abnormalities in several tumor cells. Subsequently, mutations in the DJ-1 gene have been implicated in Parkinson's disease, and loss of DJ-1 function leads to neurodegeneration. DJ-1 is an ubiquitously expressed protein that is induced in response to growth stimuli and translocates from the cytoplasm to the nucleus during the S phase of the cell cycle.

REFERENCES

- Nagakubo, D., et al. 1997. DJ-1, a novel oncogene which transforms mouse NIH/3T3 cells in cooperation with Ras. *Biochem. Biophys. Res. Commun.* 231: 509-513.
- Taira, T., et al. 2001. Molecular cloning of human and mouse DJ-1 genes and identification of Sp1-dependent activation of the human DJ-1 promoter. *Gene* 263: 285-292.

CHROMOSOMAL LOCATION

Genetic locus: PARK7 (human) mapping to 1p36.23; Park7 (mouse) mapping to 4 E2.

SOURCE

DJ-1 (A-9) is a mouse monoclonal antibody raised against amino acids 1-189 representing full length DJ-1 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.

APPLICATIONS

DJ-1 (A-9) is recommended for detection of DJ-1 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), 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 DJ-1 siRNA (h): sc-37080, DJ-1 siRNA (m): sc-37081, DJ-1 shRNA Plasmid (h): sc-37080-SH, DJ-1 shRNA Plasmid (m): sc-37081-SH, DJ-1 shRNA (h) Lentiviral Particles: sc-37080-V and DJ-1 shRNA (m) Lentiviral Particles: sc-37081-V.

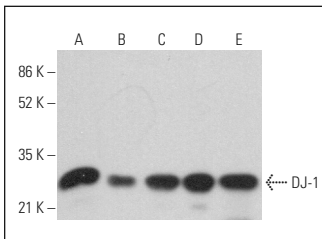
Molecular Weight of DJ-1: 23 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEL 92.1.7 cell lysate: sc-2270 or K-562 whole cell lysate: sc-2203.

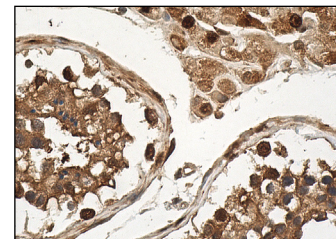
STORAGE

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

DATA



DJ-1 (A-9): sc-55573. Western blot analysis of DJ-1 expression in HeLa (A), ZR-75-1 (B), U-698-M (C), HEL 92.1.7 (D) and K-562 (E) whole cell lysates.



DJ-1 (A-9): sc-55573. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

- Roca-Rivada, A., et al. 2012. Muscle tissue as an endocrine organ: comparative secretome profiling of slow-oxidative and fast-glycolytic rat muscle explants and its variation with exercise. *J. Proteomics* 75: 5414-5425.
- Bassoy, E.Y., et al. 2017. ER-mitochondria contacts control surface glycan expression and sensitivity to killer lymphocytes in glioma stem-like cells. *EMBO J.* 36: 1493-1512.
- Ahmed, M., et al. 2018. Functional linkage of RKIP to the epithelial to mesenchymal transition and autophagy during the development of prostate cancer. *Cancers* 10: 273.
- Li, L., et al. 2020. DJ-1 promotes epithelial-to-mesenchymal transition via enhancing FGF9 expression in colorectal cancer. *Biol. Open* 9: bio051680.
- Lin, Z., et al. 2021. DJ-1 inhibits microglial activation and protects dopaminergic neurons *in vitro* and *in vivo* through interacting with microglial p65. *Cell Death Dis.* 12: 715.
- Han, S., et al. 2021. The role of Mfn2 in the structure and function of endoplasmic reticulum-mitochondrial tethering *in vivo*. *J. Cell Sci.* 134: jcs253443.

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.



See **DJ-1 (D-4): sc-55572** for DJ-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.