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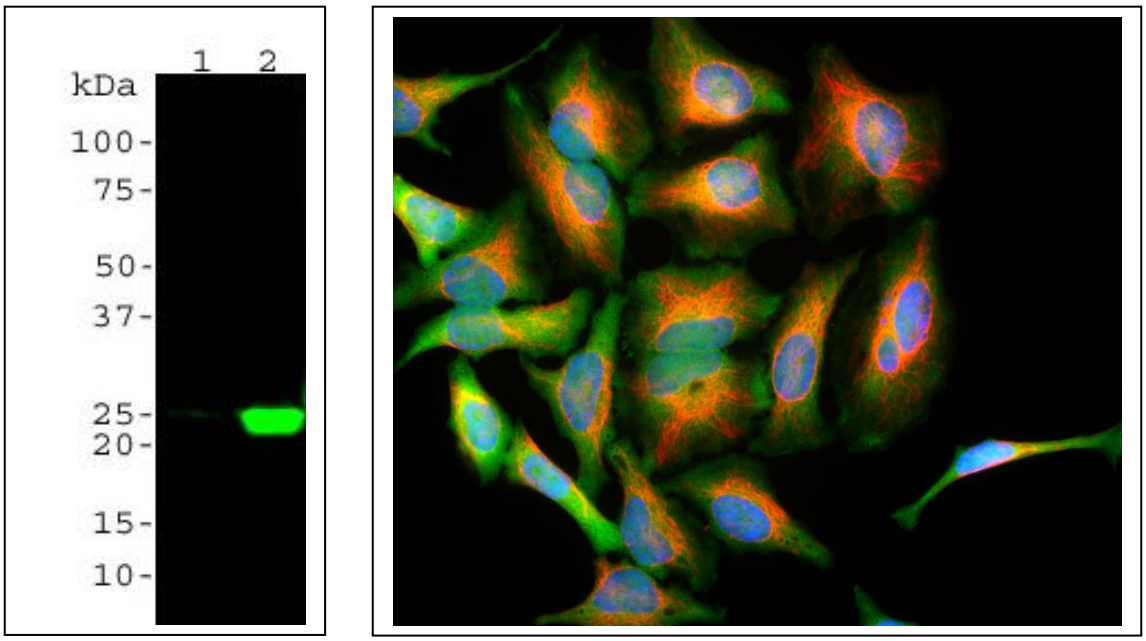
Catalogue# MCA-4H4: Mouse Monoclonal Antibody to DJ-1

The Immunogen: DJ-1, also known as Park7, is a cytoplasmic protein that belongs to the ThiJ/Pfp1/DJ1 superfamily that functions as protein chaperones, catalases, proteases and kinases. DJ-1 was originally cloned as an oncogene that cooperatively transforms cells together with H-ras (1). Mutations in the DJ-1 gene are associated with rare forms of autosomal recessive early-onset Parkinson's disease (2). DJ-1 may also function as a redox-sensitive chaperone, as a sensor for oxidative stress, and it apparently protects neurons against oxidative stress and cell death (3-5). Augmenting DJ-1 activity might provide novel approaches to treating chronic neurodegenerative illnesses such as Parkinson's disease and acute damage such as stroke (6).

MCA-4H4 was generated against full length recombinant human DJ-1 expressed in and purified from *E. coli.* The HGNC name for this protein is PARK7.



Left: Blot of 20 µg rat brain extract (lane 1) and HeLa cell lysate (lane 2) was probed with MCA-4H4 antibody to DJ-1 at 1:5,000 dilution. Notes that the strong single band running at about 21kDa corresponds to DJ-1 in HeLa cells, while DJ-1 is barely seen in rat brain lysate. This antibody binds also to bovine DJ-1 on western blots but does not recognize rat or mouse DJ-1. **Right:** HeLa cells stained with MCA-4H4 (green), and CPCA-Vim chicken antibody to vimentin (red) and DNA (blue). MCA-4H4 antibody reveals strong cytoplasmic staining for DJ-1.

Antibody characteristics: MCA-4H4 is a mouse IgG1 class antibody with a κ light chain. MCA-4H4 recognizes DJ-1 specifically both in western blots and in immunocytochemical experiments. On blots MCA-4H4 reveals a prominent ~21 kDa band, and on cells in tissue culture the antibody stains mainly in cytoplasm. MCA-4H4 has been tested to react with DJ-1 from human and bovine, but not with rat or mouse DJ-1.

Suggestions for use: The antibody solution is affinity purified from tissue culture supernatant and is at concentration of 1 mg/mL in phosphate buffered saline preparation containing 10 mM sodium azide preservative (Link to http://www.encorbio.com/MSDS/azide.htm for Material Safety Data Sheet). The antibody solution can be used at dilutions of at least 1:1,000 in immunofluorescence experiments. In western blotting using

chemiluminescence, it can be used at dilutions of 1:5,000 or lower. Avoid repeated freezing and thawing, store at 4°C or -20°C.

OMIM Link: http://omim.org/entry/602533

References:

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Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.