Store at -20°C

#5933

DJ-1 (D29E5) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

☐ Small 100 µl (10 western blots)

☐ Petite 40 µl (4 western blots)

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New 04/12

For Research Use Only. Not For Use In Diagnostic Procedures.

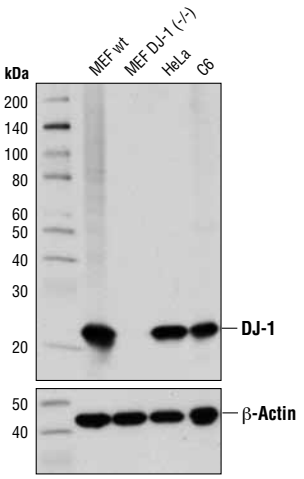
Entrez-Gene ID #11315
Swiss-Prot Acc. #Q99497

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC	H, M, R, Hm, Mk	22 kDa	Rabbit IgG**
Endogenous			

Background: Parkinson's disease (PD) is characterized by the presence of Lewy bodies (intracellular inclusions) and by the loss of dopaminergic neurons. Research studies have shown that mutations in α-synuclein, Parkin, and DJ-1 are linked to PD (1). α-synuclein is a major component of the aggregates found in Lewy bodies. Parkin is involved in protein degradation through the ubiquitin-proteasome pathway, and investigators have shown that mutations in Parkin cause early onset of PD (1). Loss-of-function mutations in DJ-1 cause early onset of PD, but DJ-1 is associated with multiple functions: it cooperates with Ras to increase cell transformation, it positively regulates transcription of the androgen receptor, and it may function as an indicator of oxidative stress (2-5). Dopamine D2 receptor-mediated functions are greatly impaired in DJ-1 (-/-) mice, resulting in reduced long-term depression (6).

Specificity/Sensitivity: DJ-1 (D29E5) XP® Rabbit mAb recognizes endogenous levels of total DJ-1 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys148 of human DJ-1 protein.



Western blot analysis of extracts from MEF wild-type, MEF DJ-1 (-/-), HeLa, and C6 cells using DJ-1 (D29E5) XP® Rabbit mAb (upper) and β-Actin (D6A8) Rabbit mAb #8457 (lower). (MEF wild-type and MEF DJ-1 (-/-) cells were kindly provided by Dr. Philipp Kahle, University of Tübingen, Germany).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (IF-IC)	1:100

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

(1) Borrelli, E. (2005) *Neuron* 45, 479-81.

(2) Bonifati, V. et al. (2003) *Science* 299, 256-9.

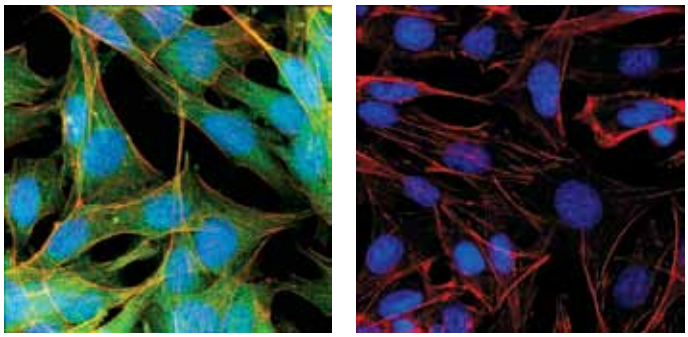
(3) Nagakubo, D. et al. (1997) *Biochem. Biophys. Res. Commun.* 231, 509-13.

(4) Takahashi, K. et al. (2001) *J. Biol. Chem.* 276, 37556-63.

(5) Mitsumoto, A. and Nakagawa, Y. (2001) *Free Radic. Res.* 35, 885-93.

(6) Goldberg, M.S. et al. (2005) *Neuron* 45, 489-96.

MEF wild-type **MEF DJ-1 (-/-)**



Confocal immunofluorescent analysis of MEF wild-type (left) or MEF DJ-1 (-/-) (right) cells using DJ-1 (D29E5) XP® Rabbit mAb (green). Actin filaments were labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye). (MEF wild-type and MEF DJ-1 (-/-) cells were kindly provided by Dr. Philipp Kahle, University of Tübingen, Germany).

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.