



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Monoclonal Anti-Park7 (DJ-1)

Clone E2.1

produced in mouse, purified immunoglobulin

Catalog Number D2943

Monoclonal Anti- Park7 (DJ-1) (mouse IgM isotype) is derived from the hybridoma E2.1 produced by the fusion of mouse myeloma cells (NSO/1 cells) and splenocytes from BALB/c mice immunized with full-length recombinant human DJ-1 protein. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti- Park7 (DJ-1) recognizes human DJ-1 (approx. 24 kDa). The product is useful in immunoblotting, immunohistochemistry and immunocytochemistry.

Park7/ DJ-1 gene encodes a protein of 189 amino acids of unknown function. The protein is conserved among different species and was found to be involved in diverse cellular processes such as cellular transformation, control of protein-RNA interaction and oxidative stress response in control of male infertility.^{1,2} Mutations in this gene were found correlated with autosomal recessive early onset parkinsonism. Two independent mutations in the gene have been reported: a loss of the first three exons, or a change of Leu¹⁶⁶ to Pro. While the first mutation causes a loss in expression, the second mutation causes a loss in activity.³ DJ-1 is found in a complex with PIASx α (protein inhibitor of activated STAT) and it can restore androgen receptor (AR) transcription activity that was repressed by PIASx α .⁴

Park7/ DJ-1 is ubiquitously expressed in various human tissues and its expression is induced by growth stimuli. It translocates from the cytoplasm to the nucleus in the S phase of the cell cycle.⁵ Park7/ DJ-1 has been reported to play some role in several different cancers, e.g., lung,⁶ breast⁷ and prostate², and to be a suppressor of PTEN activity.⁸

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 μ g/ml is determined using total cell extract of HEK 293T cells.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Hod, Y., et al., *J. Cell. Biochem.*, **72**, 435-444 (1999).
2. Hod, Y., *J. Cell. Biochem.* **92**, 1221-1233 (2004).
3. Bonifati, V., et al., *Science*, **299**, 256-259 (2003).
4. Niki, T., et al., *Mol. Cancer Res.*, **1**, 247-261 (2003).
5. Nagakubo, D., et al., *Biochem. Biophys. Res. Commun.*, **231**, 509-513 (1997).

6. Mackeigan, J.P., et al., *Cancer Res.*, **63**, 6928-6934 (2003).
7. Le Naour, F., et al., *Clin. Cancer Res.*, **7**, 3328-3335 (2001).

8. Kim, R.H., et al., *Cancer Cell*, **7**, 263-273 (2005).

EK,MCT,PHC 12/05-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.