SANTA CRUZ BIOTECHNOLOGY, INC.

Parkin (D-1): sc-133167

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Parkin is a zinc finger protein that is related to ubiquitin at the amino terminus. The wild type Parkin gene, which maps to human chromosome 6q26, encodes a 465 amino acid full-length protein that is expressed as multiple isoforms. Mutations in the Parkin gene are responsible for autosomal recessive juvenile Parkinson's disease and commonly involve deletions of exons 3-5. In humans, Parkin is expressed in a subset of cells of the basal ganglia, midbrain, cerebellum and cerebral cortex, and is subject to alternative splicing in different tissues. Parkin expression is also high in the brainstem of mice, with the majority of immunopositive cells being neurons. The Parkin gene has been identified in a diverse group of organisms, including mammals, birds, frogs and fruit flies, suggesting that analogous functional roles of the Parkin protein may have been highly conserved during the course of evolution.

CHROMOSOMAL LOCATION

Genetic locus: PARK2 (human) mapping to 6q26; Park2 (mouse) mapping to 17 A1.

SOURCE

Parkin (D-1) is a mouse monoclonal antibody raised against amino acids 61-360 mapping within an internal region of Parkin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Parkin (D-1) is available conjugated to agarose (sc-133167 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133167 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133167 PE), fluorescein (sc-133167 FITC), Alexa Fluor® 488 (sc-133167 AF488), Alexa Fluor® 546 (sc-133167 AF546), Alexa Fluor® 594 (sc-133167 AF594) or Alexa Fluor® 647 (sc-133167 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133167 AF680) or Alexa Fluor® 790 (sc-133167 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Parkin (D-1) is recommended for detection of Parkin 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Parkin siRNA (h): sc-42158, Parkin siRNA (m): sc-42159, Parkin siRNA (r): sc-270243, Parkin shRNA Plasmid (h): sc-42158-SH, Parkin shRNA Plasmid (m): sc-42159-SH, Parkin shRNA Plasmid (r): sc-270243-SH, Parkin shRNA (h) Lentiviral Particles: sc-42158-V, Parkin shRNA (m) Lentiviral Particles: sc-42159-V and Parkin shRNA (r) Lentiviral Particles: sc-270243-V.

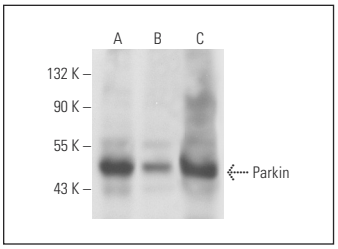
Molecular Weight of Parkin: 50-58 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, IMR-32 cell lysate: sc-2409 or KNRK whole cell lysate: sc-2214.

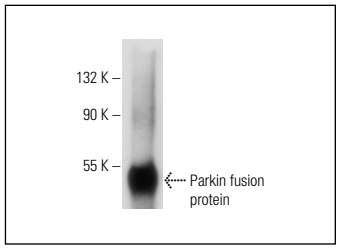
STORAGE

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

DATA



Parkin (D-1): sc-133167. Western blot analysis of Parkin expression in SH-SY5Y (**A**) IMR-32 (**B**) and KNRK (**C**) whole cell lysates.



Parkin (D-1): sc-133167. Western blot analysis of truncated human recombinant Parkin fusion protein.

SELECT PRODUCT CITATIONS

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2. Thai, P.N., et al. 2018. Cardiac-specific conditional knockout of the 18-kDa mitochondrial translocator protein protects from pressure overload induced heart failure. Sci. Rep. 8: 16213.
3. Na, W., et al. 2019. TBX1 functions as a tumor suppressor in thyroid cancer through inhibiting the activities of PI3K/Akt and MAPK/ERK pathways. Thyroid 29: 378-394.
4. Livingston, M.J., et al. 2019. Clearance of damaged mitochondria via mitophagy is important to the protective effect of ischemic preconditioning in kidneys. Autophagy 15: 2142-2162.
5. Chávez, E., et al. 2020. Role of autophagy in the chemopreventive effect of the IFC-305 compound in the sequential model of cirrhosis-hepatocellular carcinoma in the rat and *in vitro*. Am. J. Cancer Res. 10: 1844-1856.
6. Wu, M., et al. 2021. Garciesculenxanthone B induces PINK1-Parkin-mediated mitophagy and prevents ischemia-reperfusion brain injury in mice. Acta Pharmacol. Sin. 42: 199-208.
7. Feng, J., et al. 2021. Nujiangexanthone A inhibits cervical cancer cell proliferation by promoting mitophagy. Molecules 26: 2858.
8. Hu, J.M., et al. 2022. The synergistic cytotoxic effects of GW5074 and sorafenib by impacting mitochondrial functions in human colorectal cancer cell lines. Front. Oncol. 12: 925653.
9. Liu, X., et al. 2022. LncRNA LOC105378097 inhibits cardiac mitophagy in natural ageing mice. Clin. Transl. Med. 12: e908.

RESEARCH USE

For research use only, not for use in diagnostic procedures.