SANTA CRUZ BIOTECHNOLOGY, INC.

Parkin (N-18): sc-13279

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, frog and fruit flies, suggesting that analogous functional roles of the Parkin protein may have been highly conserved during the course of evolution.

REFERENCES

1. Sunada, Y., et al. 1998. Differential expression of the Parkin gene in the human brain and peripheral leukocytes. Neurosci. Lett. 254: 180-182.
2. Imai, Y., et al. 2000. Parkin suppresses unfolded protein stress-induced cell death through its E3 ubiquitin-protein ligase activity. J. Biol. Chem. 275: 35661-3564.
3. Huynh, D.P., et al. 2000. Parkin is associated with Actin filaments in neuronal and nonneural cells. Ann.Neurol. 48: 737-744.
4. Stichel, C.C., et al. 2000. Parkin expression in the adult mouse brain. Eur. J. Neurosci. 12: 4181-4194.
5. Rankin, C.A., et al. 2001. E3 ubiquitin-protein ligase activity of Parkin is dependent on cooperative interaction of ring finger (triad) elements. J. Biomed. Sci. 8: 421-49.
6. Mizuno, Y., et al. 2001. Parkin and Parkinson's disease. Curr. Opin. Neurol. 14: 477-482.
7. Horowitz, J.M., et al. 2001. Immunodetection of Parkin protein in vertebrate and invertebrate brains: a comparative study using specific antibodies. J. Chem. Neuroanat. 21: 75-93.

CHROMOSOMAL LOCATION

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

SOURCE

Parkin (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Parkin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13279 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Parkin (N-18) is recommended for detection of Parkin isoforms 1, 2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Parkin (N-18) is also recommended for detection of Parkin isoforms 1, 2 and 3 in additional species, including equine, canine, bovine and porcine.

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 mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Esteve-Rudd, J., et al. 2010. Expression in the mammalian retina of parkin and UCH-L1, two components of the ubiquitin-proteasome system. Brain Res. 1352: 70-82.

STORAGE

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

RESEARCH USE

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