SANTA CRUZ BIOTECHNOLOGY, INC.

Huntingtin (3E10): sc-47757

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Huntingtin is a protein that contains a polyglutamine region. When the number of glutamine repeats exceeds 35, the gene encodes a version of Huntingtin that leads to Huntington's disease (HD). When the polyglutamine stretch is mutated, Huntingtin acts within the nucleus to induce neurodegeneration by a cell-specific apoptotic mechanism. Loss of Huntingtin activity is unlikely to be the cause of HD, and it has been proposed that the expanded glutamine repeat region may induce an abnormal interaction between the mutant protein and other cellular proteins. Huntingtin interacts with a variety of proteins including HAP1, glyceraldehyde phosphate dehydrogenase (GAPDH), and HIP1.

CHROMOSOMAL LOCATION

Genetic locus: HTT (human) mapping to 4p16.3; Htt (mouse) mapping to 5 B2.

SOURCE

Huntingtin (3E10) is a mouse monoclonal antibody raised against amino acids 997-1276 of Huntingtin 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.

Huntingtin (3E10) is available conjugated to agarose (sc-47757 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-47757 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47757 PE), fluorescein (sc-47757 FITC), Alexa Fluor® 488 (sc-47757 AF488), Alexa Fluor® 546 (sc-47757 AF546), Alexa Fluor® 594 (sc-47757 AF594) or Alexa Fluor® 647 (sc-47757 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47757 AF680) or Alexa Fluor® 790 (sc-47757 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Huntingtin (3E10) is recommended for detection of an epitope corresponding to the HDA region (amino acids 1171-1177) of Huntingin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Huntingtin siRNA (h): sc-35617, Huntingtin siRNA (m): sc-35618, Huntingtin siRNA (r): sc-270267, Huntingtin shRNA Plasmid (h): sc-35617-SH, Huntingtin shRNA Plasmid (m): sc-35618-SH, Huntingtin shRNA Plasmid (r): sc-270267-SH, Huntingtin shRNA (h) Lentiviral Particles: sc-35617-V, Huntingtin shRNA (m) Lentiviral Particles: sc-35618-V and Huntingtin shRNA (r) Lentiviral Particles: sc-270267-V.

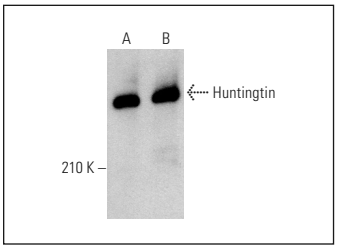
Molecular Weight of Huntingtin: 350 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

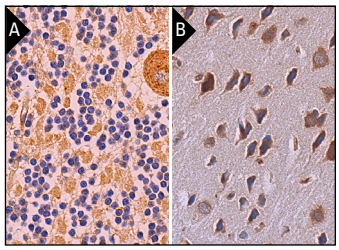
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Huntingtin (3E10): sc-47757. Western blot analysis of Huntingtin expression in HeLa (**A**) and K-562 (**B**) whole cell lysates.



Huntingtin (3E10): sc-47757. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of purkinje cells and cells in molecular layer (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic staining of neuronal cells (**B**).

SELECT PRODUCT CITATIONS

1. Qu, Z. and D'Mello, S.R. 2018. Proteomic analysis identifies NPTX1 and HIP1R as potential targets of histone deacetylase-3-mediated neurodegeneration. Exp. Biol. Med. 243: 627-638.
2. Shen, M., et al. 2019. Reduced mitochondrial fusion and Huntingtin levels contribute to impaired dendritic maturation and behavioral deficits in FMR1-mutant mice. Nat. Neurosci. 22: 386-400.
3. Lee, J., et al. 2019. HAP1 loss confers L-asparaginase resistance in ALL by downregulating the calpain-1-Bid-caspase-3/12 pathway. Blood 133: 2222-2232.
4. Lee, D., et al. 2019. No more helper adenovirus: production of gutless adenovirus (GLAd) free of adenovirus and replication-competent adenovirus (RCA) contaminants. Exp. Mol. Med. 51: 127.
5. Sun, Y., et al. 2020. Escins isolated from *Aesculus chinensis* bge. promote the autophagic degradation of mutant Huntingtin and inhibit its induced apoptosis in HT22 cells. Front. Pharmacol. 11: 116.

STORAGE

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