SANTA CRUZ BIOTECHNOLOGY, INC.

FBXO7 (E-8): sc-271763

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

F-box proteins are critical components of the SCF (Skp1-CUL-1-F-box protein) type E3 ubiquitin ligase complex and are involved in substrate recognition and recruitment for ubiquitination. They are members of a larger family of proteins that are involved in the regulation of a wide variety of cellular processes (including the cell cycle, immune responses, signaling cascades and developmental events) through the targeting of proteins, such as cyclins, cyclin-dependent kinase inhibitors, IκB-α and β-catenin, for proteasomal degradation. FBXO7 (F-box protein 7), also known as FBX, FBX7 or PKPS, is a 522 amino acid protein that contains one F-box domain and functions as a component of the SCF complex. Defects in the gene encoding FBXO7 are associated with parkinsonian-pyramidal syndrome (PKPS), a hypokinetic rigid disorder that exhibits Parkinsonian and pyramidal-associated symptoms.

CHROMOSOMAL LOCATION

Genetic locus: FBXO7 (human) mapping to 22q12.3; Fbxo7 (mouse) mapping to 10 C1.

SOURCE

FBXO7 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-461 within an internal region of FBXO7 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.

FBXO7 (E-8) is available conjugated to agarose (sc-271763 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271763 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271763 PE), fluorescein (sc-271763 FITC), Alexa Fluor® 488 (sc-271763 AF488), Alexa Fluor® 546 (sc-271763 AF546), Alexa Fluor® 594 (sc-271763 AF594) or Alexa Fluor® 647 (sc-271763 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271763 AF680) or Alexa Fluor® 790 (sc-271763 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271763 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FBXO7 (E-8) is recommended for detection of FBXO7 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).

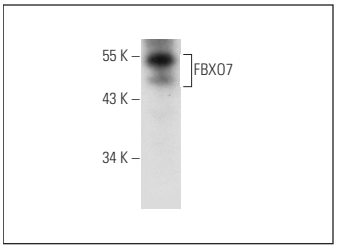
Suitable for use as control antibody for FBXO7 siRNA (h): sc-75010, FBXO7 siRNA (m): sc-145134, FBXO7 shRNA Plasmid (h): sc-75010-SH, FBXO7 shRNA Plasmid (m): sc-145134-SH, FBXO7 shRNA (h) Lentiviral Particles: sc-75010-V and FBXO7 shRNA (m) Lentiviral Particles: sc-145134-V.

Molecular Weight of FBXO7: 59 kDa.

STORAGE

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

DATA



FBXO7 (E-8): sc-271763. Western blot analysis of FBXO7 expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Vingill, S., et al. 2016. Loss of FBXO7 (PARK15) results in reduced proteasome activity and models a parkinsonism-like phenotype in mice. EMBO J. 35: 2008-2025.
2. Reitsma, J.M., et al. 2017. Composition and regulation of the cellular repertoire of SCF ubiquitin ligases. Cell 171: 1326-1339.e14.
3. Joseph, S., et al. 2019. Myelinating glia-specific deletion of FBXO7 in mice triggers axonal degeneration in the central nervous system together with peripheral neuropathy. J. Neurosci. 39: 5606-5626.
4. Huang, T., et al. 2020. FBXO7 and Pink1 play a reciprocal role in regulating their protein levels. Aging 13: 77-88.
5. Wang, Q., et al. 2021. The parkinsonism-associated protein FBXO7 cooperates with the BAG6 complex in proteasome function and controls the subcellular localization of the complex. Biochem. J. 478: 2179-2199.
6. Lee, S.H., et al. 2021. FBXO7 triggers caspase 8-mediated proteolysis of the transcription factor FOXO4 and exacerbates neuronal cytotoxicity. J. Biol. Chem. 297: 101426.
7. Lee, S.H., et al. 2023. E3 ligase adaptor FBXO7 contributes to ubiquitination and proteasomal degradation of SIRT7 and promotes cell death in response to hydrogen peroxide. J. Biol. Chem. E-published.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.