SANTA CRUZ BIOTECHNOLOGY, INC.

FBXO3 (C-7): sc-514625

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. FBXO3 (F-box protein 3), also known as FBA or FBX3, is a 471 amino acid member of the F-box protein family. Substrate-recognition component of the SCF (SKP1-CUL1-F-box protein)-type E3 ubiquitin ligase complex, FBXO3 contains an apaG domain and a F-box domain. Existing as two isoforms producted by alternative splicing events, FBXO3 interacts with Skp1 p19 and CUL-1.

REFERENCES

1. Bai, C., et al. 1996. SKP1 connects cell cycle regulators to the ubiquitin proteolysis machinery through a novel motif, the F-box. Cell 86: 263-274.
2. Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. Curr. Biol. 9: 1177-1179.
3. Winston, J.T., et al. 1999. A family of mammalian F-box proteins. Curr. Biol. 9: 1180-1182.
4. Latres, E., et al. 1999. The human F box protein β-Trcp associates with the Cul1/Skp1 complex and regulates the stability of β-catenin. Oncogene 18: 849-854.
5. Masuda, K., et al. 2002. Molecular profile of synovial fibroblasts in rheumatoid arthritis depends on the stage of proliferation. Arthritis Res. 4: R8.
6. Ilyin, G.P., et al. 2002. A new subfamily of structurally related human F-box proteins. Gene 296: 11-20.

CHROMOSOMAL LOCATION

Genetic locus: FBXO3 (human) mapping to 11p13; Fbxo3 (mouse) mapping to 2 E2.

SOURCE

FBXO3 (C-7) is a mouse monoclonal antibody raised against amino acids 91-390 mapping within an internal region of FBXO3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FBXO3 (C-7) is available conjugated to agarose (sc-514625 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514625 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514625 PE), fluorescein (sc-514625 FITC), Alexa Fluor® 488 (sc-514625 AF488), Alexa Fluor® 546 (sc-514625 AF546), Alexa Fluor® 594 (sc-514625 AF594) or Alexa Fluor® 647 (sc-514625 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514625 AF680) or Alexa Fluor® 790 (sc-514625 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

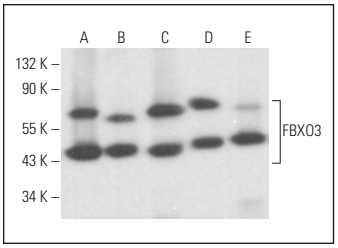
FBXO3 (C-7) is recommended for detection of FBXO3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FBXO3 siRNA (h): sc-96506, FBXO3 siRNA (m): sc-145116, FBXO3 shRNA Plasmid (h): sc-96506-SH, FBXO3 shRNA Plasmid (m): sc-145116-SH, FBXO3 shRNA (h) Lentiviral Particles: sc-96506-V and FBXO3 shRNA (m) Lentiviral Particles: sc-145116-V.

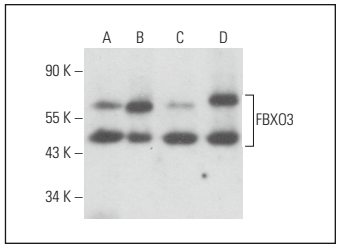
Molecular Weight of FBXO3: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, JAR cell lysate: sc-2276 or F9 cell lysate: sc-2245.

DATA



FBXO3 (C-7): sc-514625. Western blot analysis of FBXO3 expression in F9 (**A**), MCF7 (**B**), PC-12 (**C**), 3T3-L1 (**D**) and SK-BR-3 (**E**) whole cell lysates.



FBXO3 (C-7): sc-514625. Western blot analysis of FBXO3 expression in HeLa (**A**), JAR (**B**), MDA-MB-231 (**C**) and NIH/3T3 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. O'Brien, M.E., et al. 2020. Tumor necrosis factor-α regulates skeletal myogenesis by inhibiting SP1 interaction with cis-acting regulatory elements within the Fbxl2 gene promoter. Mol. Cell. Biol. 40: e00040-20.
2. Niu, M., et al. 2021. Noncanonical TGF-β signaling leads to FBXO3-mediated degradation of ΔNp63α promoting breast cancer metastasis and poor clinical prognosis. PLoS Biol. 19: e3001113.
3. Gao, Y., et al. 2022. E3 ubiquitin ligase FBXO3 drives neuroinflammation to aggravate cerebral ischemia/reperfusion injury. Int. J. Mol. Sci. 23: 13648.
4. Xu, J., et al. 2023. FBXO3 stabilizes USP4 and Twist1 to promote PI3K-mediated breast cancer metastasis. PLoS Biol. 21: e3002446.
5. Park, N.Y., et al. 2025. Activation of lysophagy by a TBK1-SCFFBXO3-TMEM192-TAX1BP1 axis in response to lysosomal damage. Nat. Commun. 16: 1109.

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.