

FBXO2 (E-9): sc-398111

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, I κ B α and β -catenin, for proteasomal degradation. FBXO2 (F-box protein 2), also known as FBX2, FBG1 or NFB42, is a 296 amino acid protein that contains one F-box domain and one F-box associated domain. Functioning as a component of the SCF complex, FBXO2 is thought to recognize and bind to select phosphorylated proteins, thereby promoting their ubiquitination and subsequent degradation.

REFERENCES

- Erhardt, J.A., et al. 1998. A novel F box protein, NFB42, is highly enriched in neurons and induces growth arrest. *J. Biol. Chem.* 273: 35222-35227.
- Cenciarelli, C., et al. 1999. Identification of a family of human F-box proteins. *Curr. Biol.* 9: 1177-1179.
- Winston, J.T., et al. 1999. A family of mammalian F-box proteins. *Curr. Biol.* 9: 1180-1182.
- Ilyin, G.P., et al. 2002. A new subfamily of structurally related human F-box proteins. *Gene* 296: 11-20.

CHROMOSOMAL LOCATION

Genetic locus: FBXO2 (human) mapping to 1p36.22.

SOURCE

FBXO2 (E-9) is a mouse monoclonal antibody raised against amino acids 205-252 mapping within an internal region of FBXO2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FBXO2 (E-9) is recommended for detection of FBXO2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 FBXO2 siRNA (h): sc-75008, FBXO2 shRNA Plasmid (h): sc-75008-SH and FBXO2 shRNA (h) Lentiviral Particles: sc-75008-V.

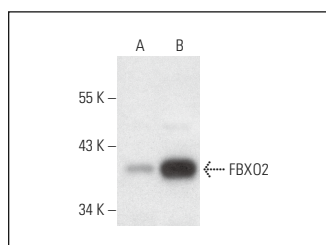
Molecular Weight of FBXO2: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NCI-H1299 whole cell lysate: sc-364234 or Hep G2 cell lysate: sc-2227.

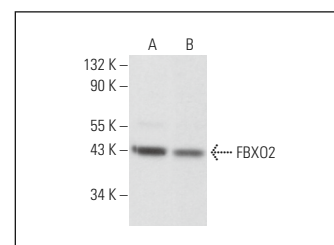
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FBXO2 (E-9): sc-398111. Western blot analysis of FBXO2 expression in HeLa (A) and Hep G2 (B) whole cell lysates.



FBXO2 (E-9): sc-398111. Western blot analysis of FBXO2 expression in Hep G2 (A) and NCI-H1299 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhang, H.J., et al. 2018. Epstein-Barr virus activates F-box protein FBXO2 to limit viral infectivity by targeting glycoprotein B for degradation. *PLoS Pathog.* 14: e1007208.
- Zhao, X., et al. 2020. FBXO2 modulates STAT3 signaling to regulate proliferation and tumorigenicity of osteosarcoma cells. *Cancer Cell Int.* 20: 245.
- Che, X., et al. 2020. FBXO2 promotes proliferation of endometrial cancer by ubiquitin-mediated degradation of FBN1 in the regulation of the cell cycle and the autophagy pathway. *Front. Cell Dev. Biol.* 8: 843.
- Yamada, A., et al. 2021. FBXO2/SCF ubiquitin ligase complex directs xenophagy through recognizing bacterial surface glycan. *EMBO Rep.* 22: e52584.
- Moore, S.T., et al. 2023. Generating high-fidelity cochlear organoids from human pluripotent stem cells. *Cell Stem Cell* 30: 950-961.e7.

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.

PROTOCOLS

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