

# BLOS1 (E-4): sc-515444

## BACKGROUND

BLOS1, also known as BLOC1S1 (biogenesis of lysosome-related organelles complex 1 subunit 1), is a 125 amino acid protein that belongs to the BLOC1S1 family. BLOS1, along with BLOS2, BLOS3, Dysbindin, Muted, Pallidin, Cappuccino and Snapin, are subunits of biogenesis of lysosome-related organelles complex-1 (BLOC1). BLOC1 is required for normal biogenesis of specialized organelles of the endosomal-lysosomal system, such as melanosomes and platelet dense granules. BLOC1 plays a key role in endosomal trafficking and as such has been found to regulate cell-surface abundance of the D2 dopamine receptor, the biogenesis and fusion of synaptic vesicles and neurite outgrowth. The BLOS1 gene maps to chromosome 12q13.2. Encoding over 1,100 genes within 132 million bases, chromosome 12 makes up about 4.5% of the human genome. A number of skeletal deformities are linked to chromosome 12 including hypochondrogenesis, achondrogenesis and Kniest dysplasia.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 1996. Johns Hopkins University, Baltimore, MD. MIM Number: 601444. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Starcevic, M. and Dell'Angelica, E.C. 2004. Identification of snapin and three novel proteins (BLOS1, BLOS2, and BLOS3/reduced pigmentation) as subunits of biogenesis of lysosome-related organelles complex-1 (BLOC-1). *J. Biol. Chem.* 279: 28393-28401.
3. Segel, R., et al. 2006. The natural history of trisomy 12p. *Am. J. Med. Genet. A* 140: 695-703.
4. Nazarian, R., et al. 2006. Reinvestigation of the dysbindin subunit of BLOC-1 (biogenesis of lysosome-related organelles complex-1) as a dystrobrevin-binding protein. *Biochem. J.* 395: 587-598.

## CHROMOSOMAL LOCATION

Genetic locus: BLOC1S1 (human) mapping to 12q13.2; Bloc1s1 (mouse) mapping to 10 D3.

## SOURCE

BLOS1 (E-4) is a mouse monoclonal antibody raised against amino acids 54-153 mapping at the C-terminus of BLOS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BLOS1 (E-4) is available conjugated to agarose (sc-515444 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515444 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515444 PE), fluorescein (sc-515444 FITC), Alexa Fluor® 488 (sc-515444 AF488), Alexa Fluor® 546 (sc-515444 AF546), Alexa Fluor® 594 (sc-515444 AF594) or Alexa Fluor® 647 (sc-515444 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515444 AF680) or Alexa Fluor® 790 (sc-515444 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

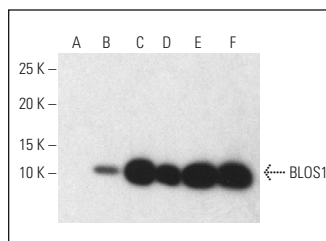
BLOS1 (E-4) is recommended for detection of BLOS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BLOS1 siRNA (h): sc-96033, BLOS1 siRNA (m): sc-141711, BLOS1 shRNA Plasmid (h): sc-96033-SH, BLOS1 shRNA Plasmid (m): sc-141711-SH, BLOS1 shRNA (h) Lentiviral Particles: sc-96033-V and BLOS1 shRNA (m) Lentiviral Particles: sc-141711-V.

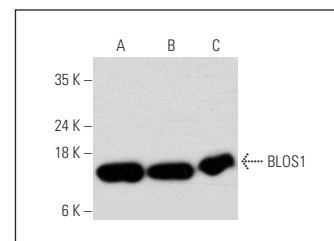
Molecular Weight of BLOS1: 14 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human lung extract: sc-363767 or BLOS1 (m): 293T Lysate: sc-118822.

## DATA



BLOS1 (E-4): sc-515444. Western blot analysis of BLOS1 expression in non-transfected 293T: sc-117752 (A), mouse BLOS1 transfected 293T: sc-118822 (B), HeLa (C), NTERA-2 cl.D1 (D) and MCF7 (E) whole cell lysates and human lung tissue extract (F). Detection reagent used:



BLOS1 (E-4): sc-515444. Western blot analysis of BLOS1 expression in HeLa whole cell lysate (A) and human lung (B) and human adrenal gland (C) tissue extracts.

## SELECT PRODUCT CITATIONS

1. Bae, D., et al. 2019. Degradation of BLOS1 mRNA by IRE1 repositions lysosomes and protects cells from stress. *J. Cell Biol.* 218: 1118-1127.
2. Lv, T., et al. 2021. General control of amino acid synthesis 5-like 1-mediated acetylation of manganese superoxide dismutase regulates oxidative stress in diabetic kidney disease. *Oxid. Med. Cell. Longev.* 2021: 6691226.
3. Cui, C., et al. 2021. A lysosome-targeted DNA nanodevice selectively targets macrophages to attenuate tumours. *Nat. Nanotechnol.* 16: 1394-1402.

## 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.