

# USP15 (B-5): sc-515688



The Power to Question

## BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. USP15 (ubiquitin specific peptidase 15), also known as UNPH4, is a member of the peptidase C19 family of proteins. Expressed in kidney, liver, placenta, ovary, lung, thymus, heart and skeletal muscle, USP15 localizes to the cytoplasm and the nucleus, contains one DUSP domain and functions as a deubiquitinating enzyme that cleaves ubiquitin residues from both ubiquitylated proteins and ubiquitin-fused precursors, thereby saving these proteins from proteasomal degradation. Via its DUSP domain, USP15 plays a role in the regulation of the COP9 signalosome (CSN) complex. Three isoforms exist for USP15 due to alternative splicing events.

## REFERENCES

- Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
- Baker, R.T., et al. 1999. Identification, functional characterization, and chromosomal localization of USP15, a novel human ubiquitin-specific protease related to the UNP oncoprotein, and a systematic nomenclature for human ubiquitin-specific proteases. Genomics 59: 264-274.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604731. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Angelats, C., et al. 2003. Isolation and characterization of the mouse ubiquitin-specific protease Usp15. Mamm. Genome 14: 31-46.

## CHROMOSOMAL LOCATION

Genetic locus: USP15 (human) mapping to 12q14.1; Usp15 (mouse) mapping to 10 D2.

## SOURCE

USP15 (B-5) is a mouse monoclonal antibody raised against amino acids 621-697 mapping within an internal region of USP15 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USP15 (B-5) is available conjugated to agarose (sc-515688 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515688 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515688 PE), fluorescein (sc-515688 FITC), Alexa Fluor® 488 (sc-515688 AF488), Alexa Fluor® 546 (sc-515688 AF546), Alexa Fluor® 594 (sc-515688 AF594) or Alexa Fluor® 647 (sc-515688 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515688 AF680) or Alexa Fluor® 790 (sc-515688 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

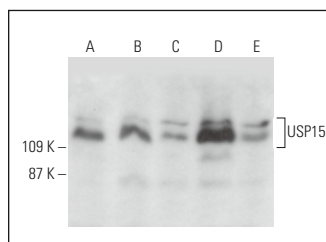
USP15 (B-5) is recommended for detection of USP15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 USP15 siRNA (h): sc-76819, USP15 siRNA (m): sc-76820, USP15 shRNA Plasmid (h): sc-76819-SH, USP15 shRNA Plasmid (m): sc-76820-SH, USP15 shRNA (h) Lentiviral Particles: sc-76819-V and USP15 shRNA (m) Lentiviral Particles: sc-76820-V.

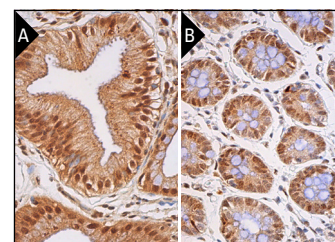
Molecular Weight of USP15: 112 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or MOLT-4 cell lysate: sc-2233.

## DATA



USP15 (B-5): sc-515688. Western blot analysis of USP15 expression in Hep G2 (A), HeLa (B), MOLT-4 (C), K-562 (D) and Jurkat (E) whole cell lysates.



USP15 (B-5): sc-515688. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder (A) and human rectum (B) tissue showing cytoplasmic and nuclear staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Long, C., et al. 2018. LPS promotes HBO1 stability via USP25 to modulate inflammatory gene transcription in THP-1 cells. Biochim. Biophys. Acta Gene Regul. Mech. 1861: 773-782.
- Wang, Y., et al. 2020. NLRC5 negatively regulates inflammatory responses in LPS-induced acute lung injury through NFκB and p38 MAPK signal pathways. Toxicol. Appl. Pharmacol. 403: 115150.
- Wu, Z., et al. 2023. USP15 promotes pulmonary vascular remodeling in pulmonary hypertension in a YAP1/TAZ-dependent manner. Exp. Mol. Med. 55: 183-195.
- Klimešová, K., et al. 2023. SART3 associates with a post-splicing complex. J. Cell Sci. 136: jcs260380.

## 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.