

USP42 (D-4): sc-390604



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. USP42 (ubiquitin specific peptidase 42) is a 1,325 amino acid protein that belongs to the peptidase C19 family. Expressed in a variety of tissues, USP42 functions to catalyze the conversion of a ubiquitin C-terminal thioester to a free ubiquitin and a thiol. The gene encoding USP42 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

CHROMOSOMAL LOCATION

Genetic locus: USP42 (human) mapping to 7p22.1; Usp42 (mouse) mapping to 5 G2.

SOURCE

USP42 (D-4) is a mouse monoclonal antibody raised against amino acids 408-531 mapping within an internal region of USP42 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USP42 (D-4) is available conjugated to agarose (sc-390604 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390604 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390604 PE), fluorescein (sc-390604 FITC), Alexa Fluor® 488 (sc-390604 AF488), Alexa Fluor® 546 (sc-390604 AF546), Alexa Fluor® 594 (sc-390604 AF594) or Alexa Fluor® 647 (sc-390604 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390604 AF680) or Alexa Fluor® 790 (sc-390604 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

USP42 (D-4) is recommended for detection of USP42 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 USP42 siRNA (h): sc-76853, USP42 siRNA (m): sc-76854, USP42 shRNA Plasmid (h): sc-76853-SH, USP42 shRNA Plasmid (m): sc-76854-SH, USP42 shRNA (h) Lentiviral Particles: sc-76853-V and USP42 shRNA (m) Lentiviral Particles: sc-76854-V.

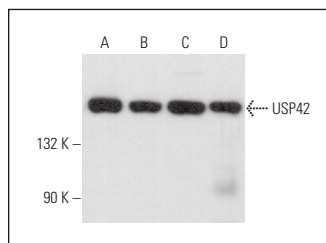
Molecular Weight of USP42: 146 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, NIH/3T3 whole cell lysate: sc-2210 or rat testis extract: sc-2400.

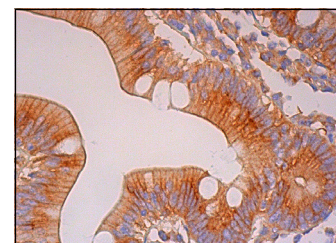
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



USP42 (D-4): sc-390604. Western blot analysis of USP42 expression in PC-3 (A), U-251-MG (B) and NIH/3T3 (C) whole cell lysates and rat testis tissue extract (D).



USP42 (D-4): sc-390604. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

- Mishra, R., et al. 2019. Dengue NS5 modulates expression of miR-590 to regulate ubiquitin-specific peptidase 42 in human microglia. *FASEB Bioadv.* 1: 265-278.
- Mishra, R. and Banerjee, A.C. 2021. SARS-CoV-2 spike targets USP33-IRF9 axis via exosomal miR-148a to activate human microglia. *Front. Immunol.* 12: 656700.
- Mishra, R., et al. 2022. Japanese encephalitis virus infection increases USP42 to stabilize TRIM21 and OAS1 for neuroinflammatory and anti-viral response in human microglia. *Virology* 573: 131-140.
- Teixeira, E., et al. 2024. Investigating USP42 mutation as underlying cause of familial non-medullary thyroid carcinoma. *Int. J. Mol. Sci.* 25: 1522.

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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA