

USP52 (6A7): sc-517176



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. USP52 (ubiquitin specific peptidase 52), also known as PAN2 (PAB-dependent poly(A)-specific ribonuclease subunit 2), is a 1,202 amino acid cytoplasmic and nuclear protein belonging to the peptidase C19 family. Containing one exonuclease domain, USP52 is involved in cytoplasmic mRNA decay. USP52 is a component of the Pan nuclease complex, which shortens poly(A) tails of RNA when the poly(A) stretch is bound by the polyadenylate-binding protein.

REFERENCES

1. Boeck, R., et al. 1996. The yeast Pan2 protein is required for poly(A)-binding protein-stimulated poly(A)-nuclease activity. *J. Biol. Chem.* 271: 432-438.
2. D'Andrea, A. and Pellman, D. 1998. Deubiquitinating enzymes: a new class of biological regulators. *Crit. Rev. Biochem. Mol. Biol.* 33: 337-352.
3. Chung, C.H. and Baek, S.H. 1999. Deubiquitinating enzymes: their diversity and emerging roles. *Biochem. Biophys. Res. Commun.* 266: 633-640.

CHROMOSOMAL LOCATION

Genetic locus: PAN2 (human) mapping to 12q13.3; Pan2 (mouse) mapping to 10 D3.

SOURCE

USP52 (6A7) is a mouse monoclonal antibody raised against amino acids 1099-1198 representing partial length USP52 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

USP52 (6A7) is recommended for detection of USP52 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 USP52 siRNA (h): sc-76873, USP52 siRNA (m): sc-76874, USP52 shRNA Plasmid (h): sc-76873-SH, USP52 shRNA Plasmid (m): sc-76874-SH, USP52 shRNA (h) Lentiviral Particles: sc-76873-V and USP52 shRNA (m) Lentiviral Particles: sc-76874-V.

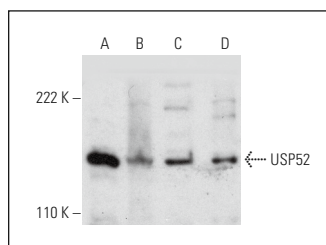
Molecular Weight of USP52: 135 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or U-87 MG cell lysate: sc-2411.

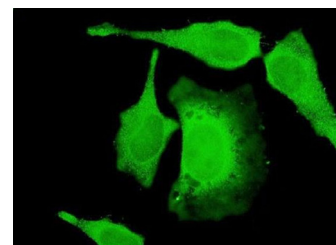
RECOMMENDED SUPPORT REAGENTS

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.

DATA



USP52 (6A7): sc-517176. Western blot analysis of USP52 expression in Jurkat (A), K-562 (B), U-87 MG (C) and ES-D3 (D) whole cell lysates.



USP52 (6A7): sc-517176. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Liu, Q., et al. 2018. Broad and diverse mechanisms used by deubiquitinase family members in regulating the type I interferon signaling pathway during antiviral responses. *Sci. Adv.* 4: eaar2824.
2. Zhang, X., et al. 2024. Stress granule-localized USP8 potentiates cGAS-mediated type I interferonopathies through deubiquitination of DDX3X. *Cell Rep.* 43: 114248.

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.