

# USP42 (M-127): sc-292323

## 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.

## REFERENCES

1. Southan, C. 2001. A genomic perspective on human proteases. *FEBS Lett.* 498: 214-218.
2. Puente, X.S., Sánchez, L.M., Overall, C.M. and López-Otín, C. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
3. Quesada, V., Díaz-Perales, A., Gutierrez-Fernández, A., Garabaya, C., Cal, S. and López-Otín, C. 2004. Cloning and enzymatic analysis of 22 novel human ubiquitin-specific proteases. *Biochem. Biophys. Res. Commun.* 314: 54-62.
4. Paulsson, K., Bekássy, A.N., Olofsson, T., Mitelman, F., Johansson, B. and Panagopoulos, I. 2006. A novel and cytogenetically cryptic t(7;21)(p22;q22) in acute myeloid leukemia results in fusion of RUNX1 with the ubiquitin-specific protease gene USP42. *Leukemia.* 20: 224-229.
5. Kim, Y.K., Kim, Y.S., Yoo, K.J., Lee, H.J., Lee, D.R., Yeo, C.Y. and Baek, K.H. 2007. The expression of USP42 during embryogenesis and spermatogenesis in mouse. *Gene Expr. Patterns.* 7: 143-148.

## CHROMOSOMAL LOCATION

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

## SOURCE

USP42 (M-127) is a rabbit polyclonal antibody raised against amino acids 407-533 mapping within an internal region of USP42 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

USP42 (M-127) is recommended for detection of USP42 of mouse, rat and, to a lesser extent, 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 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.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
 Satisfaction  
 Guaranteed

Try **USP42 (D-4): sc-390604**, our highly recommended monoclonal alternative to USP42 (M-127).