

# USP12 (T-12): sc-82072

## 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. USP12 (ubiquitin specific peptidase 12), also known as UBH1 or USP12L1, is a 370 amino acid protein belonging to the peptidase C19 family and the USP12/USP46 subfamily. Considered a deubiquitinating enzyme, it is suggested that USP12 has almost no deubiquitinating activity by itself and requires the interaction with WDR48 to have high activity. The gene encoding USP12 maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

## REFERENCES

1. Hansen-Hagge, T.E., et al. 1998. An evolutionarily conserved gene on human chromosome 5q33-q34, UBH1, encodes a novel deubiquitinating enzyme. *Genomics* 49: 411-418.
2. Chung, C.H., et al. 1999. Deubiquitinating enzymes: their diversity and emerging roles. *Biochem. Biophys. Res. Commun.* 266: 633-640.
3. Smith, T.S., et al. 2000. Sequencing, tissue distribution and chromosomal assignment of a novel ubiquitin-specific protease USP23. *Biochim. Biophys. Acta* 1490: 184-188.
4. Li, Z., et al. 2002. Identification of a deubiquitinating enzyme subfamily as substrates of the von Hippel-Lindau tumor suppressor. *Biochem. Biophys. Res. Commun.* 294: 700-709.
5. Baek, K.H., et al. 2002. Molecular cloning and complete cDNA sequence of UBH1 in mouse testis. *DNA Seq.* 13: 145-148.

## CHROMOSOMAL LOCATION

Genetic locus: USP12 (human) mapping to 13q12.13; Usp12 (mouse) mapping to 5 G3.

## SOURCE

USP12 (T-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of USP12 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82072 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

USP12 (T-12) is recommended for detection of USP12 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), 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); non cross-reactive with other USP family members.

USP12 (T-12) is also recommended for detection of USP12 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for USP12 siRNA (h): sc-76813, USP12 siRNA (m): sc-76814, USP12 shRNA Plasmid (h): sc-76813-SH, USP12 shRNA Plasmid (m): sc-76814-SH, USP12 shRNA (h) Lentiviral Particles: sc-76813-V and USP12 shRNA (m) Lentiviral Particles: sc-76814-V.

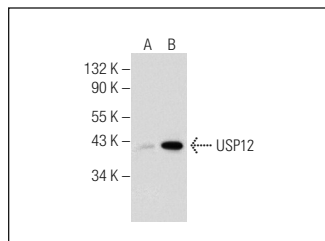
Molecular Weight of USP12: 39 kDa.

Positive Controls: USP12 (m): 293T Lysate: sc-174331.

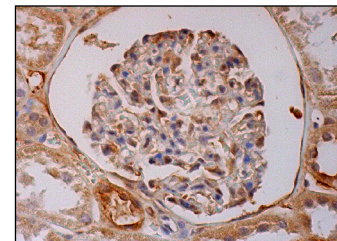
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



USP12 (T-12): sc-82072. Western blot analysis of USP12 expression in non-transfected: sc-117752 (A) and mouse USP12 transfected: sc-124491 (B) 293T whole cell lysates.



USP12 (T-12): sc-82072. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and nuclear staining of cells in glomeruli and cells in tubules.

## PROTOCOLS

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