

# USP24 (S-18): sc-82080

## 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. USP24 (ubiquitin carboxyl-terminal hydrolase 24) is a 2,620 amino acid protein that contains one UBA domain and is expressed at moderate levels in lung, heart, brain, kidney and liver. Involved in the ubiquitin pathway of protein degradation, USP24 functions to catalyze the conversion of a ubiquitin C-terminal thio ester to a free ubiquitin and a free thiol, an event that plays an important role in proteasome-mediated protein disposal. The gene encoding USP24 maps to human chromosome 1 and is thought to play a role in the pathogenesis of Parkinson's disease.

## REFERENCES

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2. Puente, X.S., et al. 2003. Human and mouse proteases: a comparative genomic approach. Nat. Rev. Genet. 4: 544-558.
3. Quesada, V., et al. 2004. Cloning and enzymatic analysis of 22 novel human ubiquitin-specific proteases. Biochem. Biophys. Res. Commun. 314: 54-62.
4. Oliveira, S.A., et al. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson's disease. Am. J. Hum. Genet. 77: 252-264.
5. Li, Y., et al. 2006. Genetic evidence for ubiquitin-specific proteases USP24 and USP40 as candidate genes for late-onset Parkinson's disease. Hum. Mutat. 27: 1017-1023.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 610569. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Haugarvoll, K., et al. 2009. Fine-mapping and candidate gene investigation within the PARK10 locus. Eur. J. Hum. Genet. 17: 336-343.

## CHROMOSOMAL LOCATION

Genetic locus: USP24 (human) mapping to 1p32.3.

## SOURCE

USP24 (S-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of USP24 of human origin.

## STORAGE

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

## PROTOCOLS

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-82080 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

USP24 (S-18) is recommended for detection of USP24 of human and rat 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); non cross-reactive with with other USP family members.

USP24 (S-18) is also recommended for detection of USP24 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for USP24 siRNA (h): sc-76827, USP24 shRNA Plasmid (h): sc-76827-SH and USP24 shRNA (h) Lentiviral Particles: sc-76827-V.

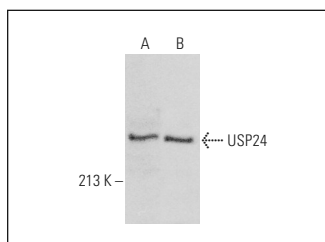
Molecular Weight of USP24: 294 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



USP24 (S-18): sc-82080. Western blot analysis of USP24 expression in HeLa (A) and HL-60 (B) whole cell lysates.

## RESEARCH USE

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