**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. USP4 (ubiquitin-specific-processing protease 4), also known as ubiquitin carboxyl-terminal hydrolase 4, UNP or UNPH (ubiquitous nuclear protein homolog), is a 963 amino acid nucleocytoplasmic protein that belongs to the peptidase C19 family. USP4 binds to the C-terminus of Adenosine A2A-R, a G<sub>A</sub>-coupled receptor, and enhances cell surface expression of the functionally active receptor. USP4 contains one DUSP domain and exists as two isoforms due to alternative splicing.

**CHROMOSOMAL LOCATION**

Genetic locus: USP4 (human) mapping to 3p21.31; Usp4 (mouse) mapping to 55K-755K.

**SOURCE**

USP4 (H-3) is a mouse monoclonal antibody raised against amino acids 708-779 mapping within an internal region of USP4 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG<sub>k</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

USP4 (H-3) is available conjugated to agarose [sc-376000 AC], 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP [sc-376000 HRP], 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin [sc-376000 PE], fluorescein [sc-376000 FITC], Alexa Fluor<sup>®</sup> 488 [sc-376000 AF488], Alexa Fluor<sup>®</sup> 546 [sc-376000 AF546], Alexa Fluor<sup>®</sup> 594 [sc-376000 AF594] or Alexa Fluor<sup>®</sup> 647 [sc-376000 AF647], 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 [sc-376000 AF680] or Alexa Fluor<sup>®</sup> 790 [sc-376000 AF790], 200 µg/ml, for Near-Infrared (NIR) WB, IF, and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA.

**APPLICATIONS**

USP4 (H-3) is recommended for detection of USP4 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 USP4 siRNA (h): sc-78851, USP4 siRNA (m): sc-76852, USP4 shRNA Plasmid (h): sc-78851-SH, USP4 shRNA Plasmid (m): sc-76852-SH, USP4 shRNA (h) Lentiviral Particles: sc-78851-V and USP4 shRNA (m) Lentiviral Particles: sc-76852-V.

Molecular Weight of USP4: 110 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or THP-1 cell lysate: sc-2238.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG<sub>B</sub>BP-HRP: sc-516102 or m-IgG<sub>B</sub>BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>®</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminal Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG<sub>B</sub>BP-FITC: sc-516140 or m-IgG<sub>B</sub>BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG<sub>B</sub>BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limone Mount: sc-45087.

**DATA**

**SELECT PRODUCT CITATIONS**


**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.