

USP3 Rabbit pAb

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Product Information

Application WB **Primary Accession 09Y6I4** Reactivity Human Host Rabbit Clonality Polyclonal Calculated MW 58897 **Physical State** Liquid

Immunogen KLH conjugated synthetic peptide derived from human USP3

Epitope Specificity 31-130/520 Isotype IgG

affinity purified by Protein A **Purity**

Buffer

SUBCELLULAR LOCATION

SIMILARITY

0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Nucleus. Localizes preferentially with monoubiquitinated H2A to chromatin. Belongs to the peptidase C19 family. USP3 subfamily. Contains 1 UBP-type zinc finger.

SUBUNIT Interacts (via UBP-type domain) with H2A; the interaction is less efficient than

with monoubiquitinated H2A.

Important Note This product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that **Background Descriptions**

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. USP3 (ubiquitin specific peptidase 3), also known as UBP or SIH003, is a 520 amino acid protein that contains one UBP-type zinc finger and belongs to the peptidase C19 family. Expressed ubiquitously with highest levels present in pancreas, USP3 catalyzes the conversion of a ubiquitin C-terminal thioester to

a free ubiquitin and a thiol. The gene encoding USP3 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of

the human genome.

Additional Information

Gene ID 9960

Other Names Ubiquitin carboxyl-terminal hydrolase 3, 3.4.19.12, Deubiquitinating enzyme

3, Ubiquitin thioesterase 3, Ubiquitin-specific-processing protease 3, USP3

Target/Specificity Expressed in all tissues examined, with strongest expression in pancreas. **Dilution** WB=1:500-2000

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name USP3

FunctionDeubiquitinase that plays a role in several cellular processes including transcriptional regulation, cell cycle progression or innate immunity. In

response to DNA damage, deubiquitinates monoubiquitinated target proteins such as histone H2A and H2AX and thereby counteracts RNF168- and

RNF8-mediated ubiquitination. In turn, participates in the recruitment of DNA damage repair factors to DNA break sites (PubMed: 24196443). Required for

proper progression through S phase and subsequent mitotic entry

(PubMed:<u>17980597</u>). Acts as a positive regulator of TP53 by deubiquitinating and stabilizing it to promote normal cell proliferation and transformation (PubMed:<u>28807825</u>). Participates in establishing tolerance innate immune memory through non-transcriptional feedback. Mechanistically, negatively regulates TLR-induced NF-kappa-B signaling by targeting and removing the

'Lys- 63'-linked polyubiquitin chains on MYD88 (PubMed: 37971847).

Negatively regulates the activation of type I interferon signaling by mediating

'Lys-63'-linked polyubiquitin chains on RIGI and IFIH1 (PubMed: <u>24366338</u>). Also deubiquinates ASC/PYCARD, the central adapter mediating the assembly and activation of most inflammasomes, and thereby promotes inflammasome

activation (PubMed:36050480).

Cellular Location Nucleus. Cytoplasm. Note=Localizes preferentially with monoubiquitinated

H2A to chromatin (PubMed:17980597). Upon NF-kappa-B signaling activation,

exits the nucleus (PubMed:37971847)

Tissue Location Expressed in all tissues examined, with strongest expression in pancreas

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. USP3 (ubiquitin specific peptidase 3), also known as UBP or SIH003, is a 520 amino acid protein that contains one UBP-type zinc finger and belongs to the peptidase C19 family. Expressed ubiquitously with highest levels present in pancreas, USP3 catalyzes the conversion of a ubiquitin C-terminal thioester to a free ubiquitin and a thiol. The gene encoding USP3 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

Images

Sample:

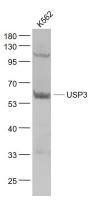
K562(Human) Cell Lysate at 30 ug

Primary: Anti- USP3 (AP58245) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000

dilution

Predicted band size: 59 kD Observed band size: 59 kD



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.