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VDU1 Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP2166a

Specification

VDU1 Antibody (N-term) Blocking peptide - Product Information

Primary Accession	Q8TEY7
Other Accession	Q8TEY6

VDU1 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 23032

Other Names
Ubiquitin carboxyl-terminal hydrolase 33, Deubiquitinating enzyme 33, Ubiquitin thioesterase 33, Ubiquitin-specific-processing protease 33, VHL-interacting deubiquitinating enzyme 1, hVDU1, USP33, KIAA1097, VDU1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2166a was selected from the N-term region of human VDU1-II. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

VDU1 Antibody (N-term) Blocking peptide - Protein Information

Name USP33

Synonyms KIAA1097, VDU1

Function
Deubiquitinating enzyme involved in various processes such as centrosome duplication, cellular migration and beta-2 adrenergic receptor/ADRB2 recycling. Involved in regulation of centrosome duplication by mediating deubiquitination of CCP110 in S and G2/M phase, leading to stabilize CCP110 during the period which centrioles duplicate and elongate. Involved in cell migration via its interaction with intracellular domain of ROBO1, leading to regulate the Slit signaling. Plays a role in commissural axon guidance cross the ventral midline of the neural tube in a Slit-dependent manner, possibly by mediating the deubiquitination of ROBO1. Acts as a regulator of G- protein

coupled receptor (GPCR) signaling by mediating the deubiquitination of beta-arrestins (ARRB1 and ARRB2) and beta-2 adrenergic receptor (ADRB2). Plays a central role in ADRB2 recycling and resensitization after prolonged agonist stimulation by constitutively binding ADRB2, mediating deubiquitination of ADRB2 and inhibiting lysosomal trafficking of ADRB2. Upon dissociation, it is probably transferred to the translocated beta-arrestins, leading to beta-arrestins deubiquitination and disengagement from ADRB2. This suggests the existence of a dynamic exchange between the ADRB2 and beta-arrestins. Deubiquitinates DIO2, thereby regulating thyroid hormone regulation. Mediates deubiquitination of both 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains.

Cellular Location
Cytoplasm, perinuclear region. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Associates with centrosomes predominantly in S and G2 phases but less in G1 phase (PubMed:23486064).

Tissue Location
Widely expressed..

VDU1 Antibody (N-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

VDU1 Antibody (N-term) Blocking peptide - Images

VDU1 Antibody (N-term) Blocking peptide - Background

Type 2 iodothyronine deiodinase (D2) is an integral membrane selenoenzyme that stimulates the pro-hormone thyroxine (T4) and supplies the majority of the 3,5,3?-triiodothyronine (T3) essential for brain development.1 T4 catalysis accelerates selective conjugation to ubiquitin and thereby renders D2 inactive, a posttranslational feedback mechanism used to maintain acceptable T3 levels.2,3 Ub-D2 was the first recognized substrate for von Hippel?Lindau protein?interacting (pVHL-interacting) deubiquitinating enzyme-1 (VDU1).4 VDU proteins colocalize with D2 in the endoplasmic reticulum, and their coexpression provides D2 resistance to degradation. VDU1 expression is substantially upregulated in brown adipocytes by norepinephrine or cold exposure, further amplifying D2 activity. VDU1 and VDU2 are coexpressed with D2 in many human tissues, including brain, heart, and skeletal muscle, suggesting potential roles in neurological development, cardiac function, and energy management, in addition to thermal homeostasis.VDU1- or VDU2-catalyzed deubiquitination recycles inactive Ub-D2 to its active deubiquitinated form, circumventing the proteasomal degradation pathway. Thus, Ub-D2 can be either reactivated or degraded, with the balance between these two processes influenced by VDU activity.VDU1-catalyzed D2 deubiquitination may be an important participant in the adaptive mechanism that regulates thyroid hormone action. The reversible ubiquitination-dependent mechanism regulating D2 activity permits highly responsive control of thyroid hormone activation.5,6

VDU1 Antibody (N-term) Blocking peptide - References

Ota, T., et al., Nat. Genet. 36(1):40-45 (2004).Li, Z., et al., J. Biol. Chem. 277(7):4656-4662 (2002).Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).Kikuno, R., et al., DNA Res. 6(3):197-205 (1999).