abcam

ab314058

Anti-UCHL1 antibody [BLR216K] - BSA free

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human UCHL1 aa 50-100. The exact immunogen used to generate this antibody is proprietary information. Database link P09936
Clone number	BLR216K
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

ICC

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human, Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information UCHL1

Function Deubiquitinase that plays a role in the regulation of several processes such as maintenance of synaptic function, cardiac function, inflammatory response or osteoclastogenesis (PubMed:22212137, PubMed:23359680). Abrogates the ubiquitination of multiple proteins including WWTR1/TAZ, EGFR, HIF1A and beta-site amyloid precursor protein cleaving enzyme 1/BACE1 (PubMed:22212137, PubMed:25615526). In addition, recognizes and hydrolyzes a peptide bond at the C-terminal glycine of ubiquitin to maintain a stable pool of monoubiquitin that is a

key requirement for the ubiquitin-proteasome and the autophagy-lysosome pathways (PubMed:12408865, PubMed:8639624, PubMed:9774100). Regulates amyloid precursor protein/APP processing by promoting BACE1 degradation resulting in decreased amyloid beta production (PubMed:22212137). Plays a role in the immune response by regulating the ability of MHC I molecules to reach cross-presentation compartments competent for generating Ag-MHC I complexes (By similarity). Mediates the 'Lys-48'-linked deubiquitination of the transcriptional coactivator WWTR1/TAZ leading to its stabilization and inhibition of osteoclastogenesis (By similarity). Deubiquitinates and stabilizes epidermal growth factor receptor EGFR to prevent its degradation and to activate its downstream mediators (By similarity). Modulates oxidative activity in skeletal muscle by regulating key mitochondrial oxidative proteins (By similarity). Enhances the activity of hypoxia-inducible factor 1-alpha/HIF1A by abrogateing its VHL E3 ligase-mediated ubiquitination and consequently inhibiting its degradation (PubMed:25615526).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	Up to 12 months
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Protein Gene Product 9.5 (PGP9.5) also known as ubiquitin carboxyl-terminal hydrolase L1 (UCH-L1) is an enzyme of approximately 27 kDa mass. PGP9.5 is highly expressed in neurons and neuroendocrine cells and is involved in the processing of ubiquitinated proteins. Ubiquitination and deubiquitination are critical for maintaining cellular protein homeostasis. PGP9.5 is present in the central and peripheral nervous systems. Researchers often utilize PGP9.5 as a neuronal marker due to its strong expression in nerve tissues. Antibody clone

	13C4 is commonly used in PGP9.5 immunohistochemistry to visualize this protein in histopathology sections.
Biological function summary	PGP9.5 plays a significant role in the ubiquitin-proteasome pathway where it regulates protein degradation. It functions by cleaving ubiquitin from ubiquitin-protein conjugates which can recycle ubiquitin for reuse impacting protein turnover. This process is important for removing misfolded or damaged proteins maintaining cellular integrity. PGP9.5 has not been documented as a part of any large multimeric complex; its action is rather individual yet vital in cellular processes.
Pathways	PGP9.5 is an important participant in the ubiquitin-dependent proteolysis pathway. This pathway controls the degradation of proteins that regulate cell cycle differentiation and neuromodulation. PGP9.5 works in tandem with other proteins such as the proteasome complex to remove proteins tagged for destruction. Another important pathway linked with PGP9.5 is the neuronal development pathway in which its activity supports neuron growth and repair.
Associated diseases and disorders	Defective PGP9.5 function associates mainly with neurodegenerative diseases such as Parkinson's disease and Alzheimer's disease. Mutations or dysregulation in PGP9.5 expression are implicated in the pathogenesis of these conditions affecting protein degradation and neuronal health. Other proteins like α-synuclein in Parkinson's disease interact with PGP9.5 pathways indicating their involvement in disease mechanisms. Researchers consider PGP9.5 a potential biomarker for neuronal pathology through methods like PGP9.5 IHC allowing for evaluation of nerve damage and neuroendocrine tumor diagnosis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

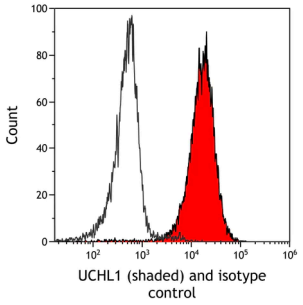
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

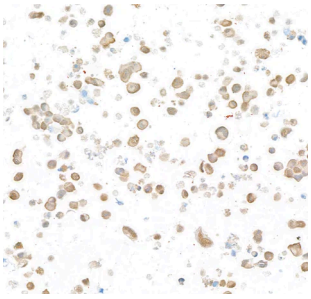
Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



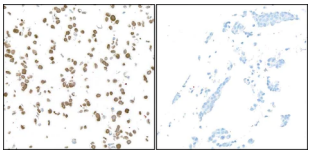
Flow Cytometry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Detection of human UCHL1 (shaded) in A549 cells by flow cytometry. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216) or isotype control (unshaded). Secondary: DyLight® 650-conjugated goat anti-rabbit IgG (A120-101D5).



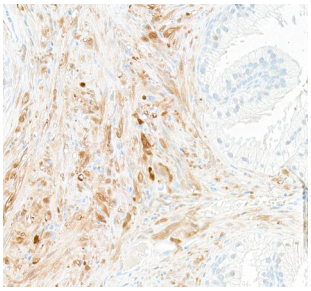
Immunocytochemistry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Detection of human UCHL1 by immunocytochemistry. Sample:FFPE section of ND7/23 cells. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216-1). Secondary:HRP-conjugated goat antirabbit IgG (A120-501P).



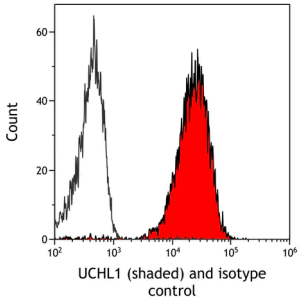
Immunocytochemistry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Detection of human UCHL1 by immunocytochemistry. Sample:FFPE section of DU145 cells (left - positive) and LNCaP cells (right -negative). Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216-1). Secondary:HRP-conjugated goat antirabbit IgG (A120-501P).



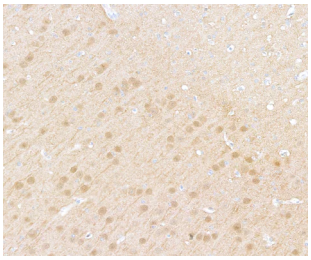
Immunohistochemistry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Detection of human UCHL1 by immunohistochemistry. Sample:FFPE section of prostate carcinoma. Antibody: Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216-1). Secondary:HRP-conjugated goat anti-rabbit IgG (A120-501P).



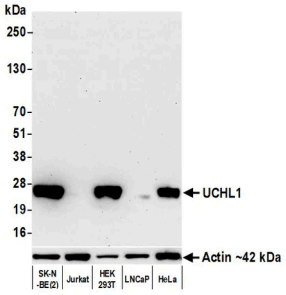
Flow Cytometry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Detection of mouse UHCL1 (shaded) in EL4 cells by flow cytometry. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216) or isotype control (unshaded). Secondary: DyLight® 650-conjugated goat anti-rabbit IgG (A120-101D5).



Immunohistochemistry - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Sample:FFPE section of mouse brain. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216-1). Secondary:HRP-conjugated goat antirabbit IgG (A120-501P).



Western blot - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Samples: Whole cell lysate (10 µg) from SK-N-BE(2), Jurkat, HEK293T, LNCaP, and HeLa cells prepared using NETN lysis buffer. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] used at 1:1000. Secondary: HRP-conjugated goat anti-rabbit IgG. Chemiluminescence with an exposure time of 30 seconds. Lower Panel: Rabbit anti-Actin recombinant monoclonal antibody [BLR057F]
All lanes:
Western blot - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058) at 1/1000 dilution

Lane 1:
SK-N-BE(2) whole cell lysate at 10 µg

Lane 2:
Jurkat whole cell lysate at 10 µg

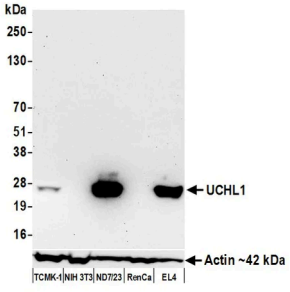
Lane 3:
HEK293T whole cell lysate at 10 µg

Lane 4:
LNCaP whole cell lysate at 10 µg

Lane 5:
HeLa whole cell lysate at 10 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG



Western blot - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058)

Samples: Whole cell lysate (50 µg) from TCMK-1, NIH 3T3, ND7/23 (10 µg), RenCa, and EL4 (10 µg) cells prepared using NETN lysis buffer. Antibody:Rabbit anti-UCHL1 recombinant monoclonal antibody [BLR216K] (A700-216 lot 1) used at 1:1000. Secondary:HRP-conjugated goat anti-rabbit IgG (A120-101P). Chemiluminescence with an exposure time of 30 seconds. Lower Panel: Rabbit anti-Actin recombinant monoclonal antibody [BLR057F] (A700-057).
All lanes:
Western blot - Anti-UCHL1 antibody [BLR216K] - BSA free (ab314058) at 1/1000 dilution

Lane 1:
TCMK-1 whole cell lysate at 50 µg

Lane 2:
NIH 3T3 Whole cell lysate at 50 µg

Lane 3:
ND7/23 Whole cell lysate at 10 µg

Lane 4:

RenCa Whole cell lysate at 50 µg

Lane 5:
EL4 Whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG

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