abcam

ab230645

Anti-WDR48/UAF1 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human WDR48 aa 600 to C-terminus conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link Q8TAF3
Purification technique	Affinity purification Protein A
Concentration	0.47 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Predicted

Species	Mouse, Chicken, Cynomolgus monkey, Orangutan
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Predicted

Species	Mouse, Chicken, Cynomolgus monkey, Orangutan
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Chicken, Cynomolgus monkey, Orangutan
Dilution info	-
Notes	-

Target data

See full target information WDR48

Function	Regulator of deubiquitinating complexes, which acts as a strong activator of USP1, USP12 and USP46 (PubMed:18082604, PubMed:19075014, PubMed:26388029, PubMed:31253762). Enhances the USP1-mediated deubiquitination of FANCD2; USP1 being almost inactive by itself (PubMed:18082604, PubMed:31253762). Activates deubiquitination by increasing the catalytic turnover without increasing the affinity of deubiquitinating enzymes for the substrate (PubMed:19075014, PubMed:27373336). Also activates deubiquitinating activity of complexes containing USP12 (PubMed:19075014, PubMed:27373336, PubMed:27650958). In complex with USP12, acts as a potential tumor suppressor by positively regulating PHLPP1 stability (PubMed:24145035). Docks at the distal end of the USP12 fingers domain and induces a cascade of structural changes leading to the activation of the enzyme (PubMed:27373336, PubMed:27650958). Together with RAD51AP1, promotes DNA repair by stimulating RAD51-mediated homologous recombination (PubMed:27239033, PubMed:27463890, PubMed:32350107). Binds single-stranded DNA (ssDNA) and double-stranded DNA (dsDNA) (PubMed:27239033, PubMed:31253762, PubMed:32350107). DNA-binding is required both for USP1-mediated deubiquitination of FANCD2 and stimulation of RAD51-mediated homologous recombination: both WDR48/UAF1 and RAD51AP1 have coordinated role in DNA-binding during these processes (PubMed:31253762, PubMed:32350107). Together with ATAD5 and by regulating USP1 activity, has a role in PCNA-mediated translesion synthesis (TLS) by deubiquitinating monoubiquitinated PCNA (PubMed:20147293). Together with ATAD5, has a role in recruiting RAD51 to stalled forks during replication stress (PubMed:31844045). (Microbial infection) In case of infection by Herpesvirus saimiri, may play a role in vesicular transport or membrane fusion events necessary for transport to lysosomes. Induces lysosomal vesicle formation via interaction with Herpesvirus saimiri tyrosine kinase-interacting protein (TIP). Subsequently, TIP recruits tyrosine-protein kinase LCK, resulting in down-regulation of T-cell antigen receptor TCR. May play a role in generation of enlarged endosomal vesicles via interaction with TIP (PubMed:12196293). In case of infection by papillomavirus HPV11, promotes the maintenance of the viral genome via its interaction with HPV11 helicase E1 (PubMed:18032488).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	WDR48 also known as UAF1 is a regulatory subunit that interacts with deubiquitinating enzymes to enhance their activity. It has an approximate molecular mass of 73 kDa. WDR48 contains several WD40 repeats contributing to its role in protein-protein interactions. This protein is expressed in various tissues including the brain liver and kidney indicating its broad physiological relevance.
Biological function summary	The WDR48 protein plays an important role in the regulation of ubiquitin-dependent processes. It functions within the USP1-UAF1 complex which is involved in DNA damage response and repair. WDR48 enhances the deubiquitinating activity of USP1 a process important for maintaining genomic stability. This interaction allows cells to efficiently respond to and repair DNA damage thereby ensuring proper cell cycle progression and survival.
Pathways	WDR48 is integral to the DNA damage repair pathway and the cell cycle regulation pathway. It partners with USP1 and USP12 to mediate deubiquitination processes essential for the repair of DNA lesions. Additionally in the process of DNA repair WDR48 indirectly influences the function of the Fanconi anemia pathway by regulating the stability of components like FANCD2. WDR48's interaction with these proteins demonstrates its involvement in critical cellular functions.
Associated diseases and disorders	WDR48 has been associated with cancer and neurodegenerative diseases. Its interaction with USP1 is particularly relevant in the context of tumor growth as disruptions in their function may lead to unchecked cell proliferation. Additionally abnormalities in WDR48 function have connections to neurodegenerative disease mechanisms linked through shared pathways with proteins such as ATM an important player in neurological health. These associations highlight the significance of WDR48 in disease mechanisms and make it a potential therapeutic target.

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

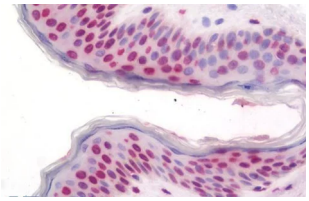
We do not recommend this combination. It is not covered by our product promise.

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:
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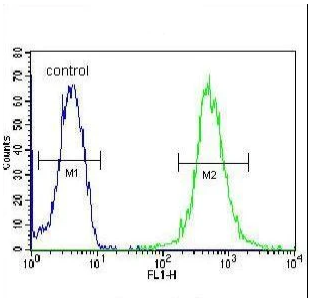
3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-WDR48/UAF1 antibody (ab230645)

WDR48/UAF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-WDR48/UAF1 antibody

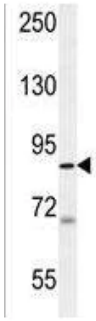
Formalin-fixed, paraffin-embedded human skin tissue stained for WDR48/UAF1 using ab230645 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry (Intracellular) - Anti-WDR48/UAF1 antibody (ab230645)

WDR48/UAF1 Flow Cytometry (Intracellular) staining using rabbit Anti-WDR48/UAF1 antibody

Intracellular flow cytometric analysis of HEK-293 (human epithelial cell line from embryonic kidney) cells labelling WDR48/UAF1 using ab230645 at 1/10 dilution (green) comapred toa negative control (blue).
FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Western blot - Anti-WDR48/UAF1 antibody (ab230645)

All lanes:
Western blot - Anti-WDR48/UAF1 antibody (ab230645) at 1/1000 dilution

All lanes:
HEK-293 (human epithelial cell line from embryonic kidney) whole cell lysate at 35 µg

Predicted band size: 76 kDa

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