abcam

ab271032

Anti-HUWE1/Mule antibody [EPR24361-13]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24361-13
Purification technique	Affinity purification Protein A
Concentration	0.507 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human

Dilution info	1/50
Notes	-

Expected

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

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information HUWE1

Function	E3 ubiquitin-protein ligase which mediates ubiquitination and subsequent proteasomal degradation of target proteins (PubMed:15567145, PubMed:15767685, PubMed:15989957, PubMed:17567951, PubMed:18488021, PubMed:19037095, PubMed:19713937, PubMed:20534529, PubMed:30217973).

Regulates apoptosis by catalyzing the polyubiquitination and degradation of MCL1 (PubMed:15989957). Mediates monoubiquitination of DNA polymerase beta (POLB) at 'Lys-41', 'Lys-61' and 'Lys-81', thereby playing a role in base-excision repair (PubMed:19713937). Also ubiquitinates the p53/TP53 tumor suppressor and core histones including H1, H2A, H2B, H3 and H4 (PubMed:15567145, PubMed:15767685, PubMed:15989956). Ubiquitinates MFN2 to negatively regulate mitochondrial fusion in response to decreased stearoylation of TFRC (PubMed:26214738). Ubiquitination of MFN2 also takes place following induction of mitophagy; AMBRA1 acts as a cofactor for HUWE1-mediated ubiquitination (PubMed:30217973). Regulates neural differentiation and proliferation by catalyzing the polyubiquitination and degradation of MYCN (PubMed:18488021). May regulate abundance of CDC6 after DNA damage by polyubiquitinating and targeting CDC6 to degradation (PubMed:17567951). Mediates polyubiquitination of isoform 2 of PA2G4 (PubMed:19037095). Acts in concert with MYCBP2 to regulate the circadian clock gene expression by promoting the lithium-induced ubiquitination and degradation of NR1D1 (PubMed:20534529). Binds to an upstream initiator-like sequence in the preprodynorphin gene (By similarity). Mediates HAPSTR1 degradation, but is also a required cofactor in the pathway by which HAPSTR1 governs stress signaling (PubMed:35776542). Acts as a regulator of the JNK and NF-kappa-B signaling pathways by mediating assembly of heterotypic 'Lys-63'-/'Lys-48'-linked branched ubiquitin chains that are then recognized by TAB2: HUWE1 mediates branching of 'Lys-48'-linked chains of substrates initially modified with 'Lys-63'-linked conjugates by TRAF6 (PubMed:27746020). 'Lys-63'-/'Lys-48'-linked branched ubiquitin chains protect 'Lys-63'-linkages from CYLD deubiquitination (PubMed:27746020). Ubiquitinates PPARA in hepatocytes (By similarity).

Storage

Shipped at conditions	Conditional Ambient
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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	The protein HUWE1 also known as Mule Mule HRP or Mule Mouse is a large HECT domain E3 ubiquitin ligase with a molecular weight of approximately 437 kDa. It functions by attaching ubiquitin to substrate proteins marking them for degradation via the proteasome pathway. HUWE1 is expressed ubiquitously in tissues but shows higher expression levels in brain testis and certain cancers. It regulates protein homeostasis highlighting its importance in cellular processes.
Biological function summary	HUWE1/Mule modulates various cellular functions through its ubiquitin ligase activity. It is not a part of a larger complex but interacts with numerous proteins influencing cell cycle regulation apoptosis and DNA repair. Its role in apoptosis involves facilitating the degradation of the pro-apoptotic protein Mcl-1 thereby promoting cell death. Additionally HUWE1 contributes to DNA repair by targeting histone H2AX for modification which is an important step in the DNA damage response.
Pathways	HUWE1 acts within the ubiquitin-proteasome system and the DNA damage response pathway. In the ubiquitin-proteasome system HUWE1 closely interacts with proteins such as p53 and c-Myc playing a significant role in regulating their stability and function. In the DNA damage response pathway the protein's activity affects the signaling required for cell cycle checkpoints underlining its relevance in maintaining genomic stability.
Associated diseases and disorders	HUWE1 mutations and dysregulation link to intellectual disability and certain cancers. Its association with intellectual disability arises from alterations in neural gene regulation partly through its interaction with proteins like p53. In cancer aberrant activity of HUWE1 results in uncontrolled proliferation as it affects the degradation of critical proteins involved in tumor progression such as c-Myc. Understanding HUWE1's mechanisms can provide insights into these conditions and potential therapeutic strategies.

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.

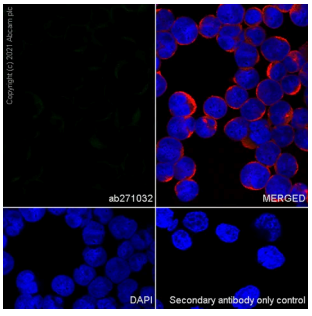
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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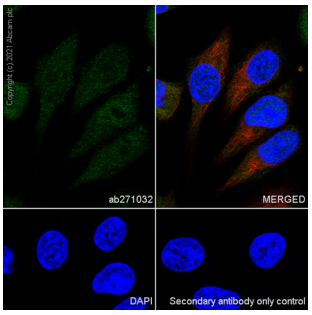
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HUWE1/Mule antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized MOLT-4 cells labelling HUWE1/Mule with ab271032 at 1/50 (10.5 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing weak staining in MOLT-4 cells.Low expression: MOLT-4 (PMID: 15567145) is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.

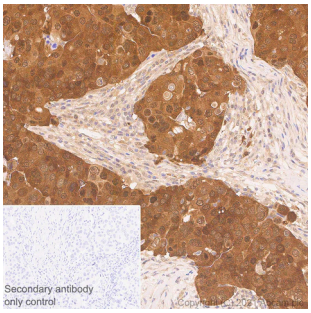


Immunocytochemistry/ Immunofluorescence - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HUWE1/Mule antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa cells labelling HUWE1/Mule with ab271032 at 1/50 (10.5 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green) Confocal image showing cytoplasmic and nuclear staining in HeLa cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594)

was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.

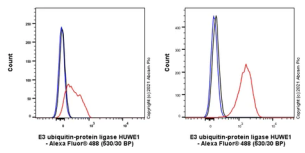


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HUWE1/Mule antibody

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labelling HUWE1/Mule with ab271032 at 1/1000 (0.525 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining in human breast carcinoma (PMID: 29375730). The section was incubated with ab271032 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

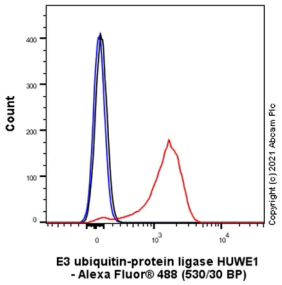
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Flow Cytometry (Intracellular) staining using rabbit Anti-HUWE1/Mule antibody

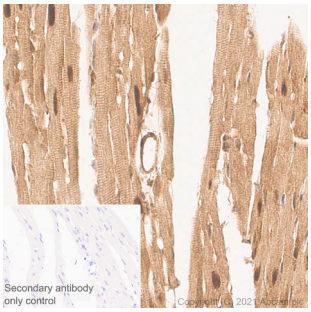
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized MOLT-4 (human lymphoblastic leukemia T lymphoblast, Left) and HeLa (Human cervix adenocarcinoma epithelial cell, Right) cells labelling HUWE1/Mule with ab271032 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Low expression: MOLT-4 (PMID: 15567145).



Flow Cytometry (Intracellular) - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Flow Cytometry (Intracellular) staining using rabbit Anti-HUWE1/Mule antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized F9 (Mouse embryonal carcinoma epithelial cell) cells labelling HUWE1/Mule with ab271032 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

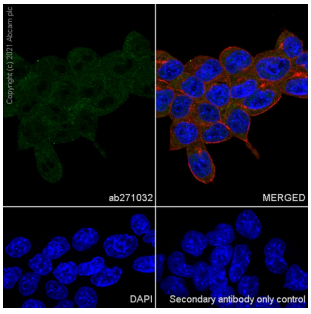


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HUWE1/Mule antibody

Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labelling HUWE1/Mule with ab271032 at 1/1000 (0.525 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining in mouse cardiac muscle. The section was incubated with ab271032 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

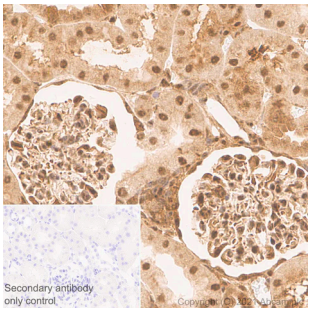
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HUWE1/Mule antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized F9 cells labelling HUWE1/Mule with ab271032 at 1/50 (10.5 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing cytoplasmic and nuclear staining in F9 cells is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.

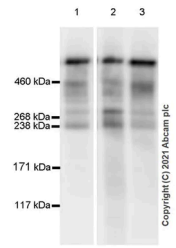


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HUWE1/Mule antibody

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labelling HUWE1/Mule with ab271032 at 1/1000 (0.525 ug/ml) dilution followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining in rat kidney. The section was incubated with ab271032 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Western blot staining using rabbit Anti-HUWE1/Mule antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBSTLysates were made freshly and used in WB test immediately to minimize protein degradation.
The expression pattern & observed MW are consistent with what has been described in the literature (PMID: 28938460).

Exposure time: Lane1: 3.25 seconds. Lane2-3: 5.5 seconds

All lanes:
Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

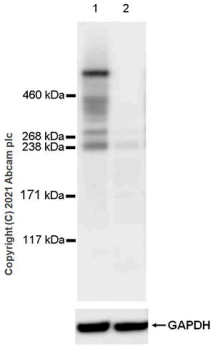
Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 481 kDa

Observed band size: 482 kDa



Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Western blot staining using rabbit Anti-HUWE1/Mule antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST. The expression pattern & observed MW are consistent with what has been described in the literature (PMID: 25883150, 28938460).
Low expression: MOLT-4 (PMID: 15567145).

Exposure time: 5.5 seconds

All lanes:
Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

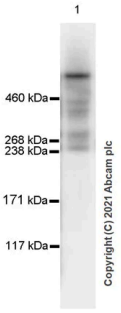
Lane 2:
MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 481 kDa

Observed band size: 482 kDa



Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032)

HUWE1/Mule Western blot staining of Mouse heart tissue lysate using rabbit Anti-HUWE1/Mule antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST. The expression pattern & observed MW are consistent with what has been described in the literature (PMID: 28938460).

Exposure time: 10 seconds

All lanes:
Western blot - Anti-HUWE1/Mule antibody [EPR24361-13] (ab271032) at 1/1000 dilution

All lanes:
Mouse heart tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 481 kDa

Observed band size: 482 kDa

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