Product Datasheet

Ubiquilin 2 Antibody (5F5) - Azide and BSA Free
H00029978-M03

Unit Size: 0.1 mg

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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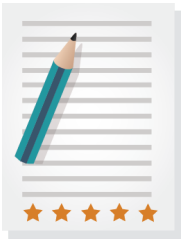
Updated 2/21/2025 v.20.1



H00029978-M03

Ubiquilin 2 Antibody (5F5) - Azide and BSA Free

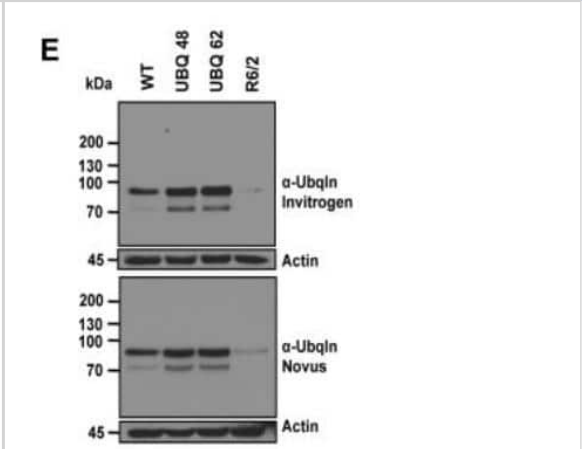
Product Information	
Unit Size	0.1 mg
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	5F5
Preservative	No Preservative
Isotype	IgG2a Kappa
Purity	IgG purified
Buffer	In 1x PBS, pH 7.4

Product Description	
Host	Mouse
Gene ID	29978
Gene Symbol	UBQLN2
Species	Human, Mouse, Rat
Specificity/Sensitivity	UBQLN2 (5F5)
Immunogen	UBQLN2 (NP_038472, 555 a.a. ~ 624 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa. PNQQFIQQMVQALAGANAPQLPNPEVRFQQQLEQLNAMGFLNREANLQALIAT GGDINAAIERLLGSQPS
Notes	This product is produced by and distributed for Abnova, a company based in Taiwan.

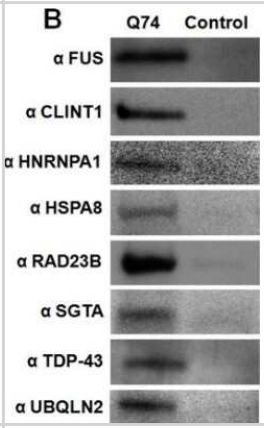
Product Application Details	
Applications	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Knockdown Validated
Recommended Dilutions	Western Blot, ELISA 1:100-1:2000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunohistochemistry-Paraffin 1:10-1:500, Immunohistochemistry-Frozen 1:10-1:500, Knockdown Validated
Application Notes	Antibody reactive against cell lysate and recombinant protein for Western Blot. Has also been used for immunofluoresence and ELISA. Immunohistochemistry was reported in scientific literature. Use in Immunohistochemistry-Frozen reported in scientific literature (PMID 24475300)

Images

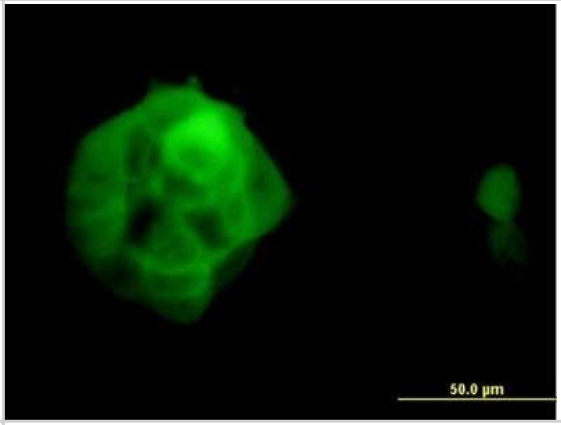
Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Generation of transgenic mice that overexpress human ubiquilin-1. Immunoblots of equal amounts of total brain lysates from 12 month-old WT mouse, 12 month-old Ubqln-1 48 transgenic mouse, 12 month-old Ubqln-1 62 transgenic mouse and end stage 15 week-old R6/2 transgenic mouse. The top panel was probed with a monoclonal anti-ubiquilin antibody (Invitrogen antibody clone 3D5E2) and the lower panel with a different monoclonal anti-Ubiquilin 2 antibody (Novus antibody clone 5F5). Note two immunoreactive ubiquilin bands are seen at 70 kDa and at 90 kDa, which we presume is a modified form of ubiquilin. Both blots were also probed for actin to ensure equal loading. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0087513) licensed under a CC-BY license.



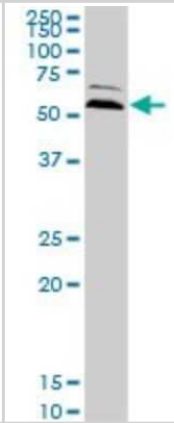
Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Confirmation of polyQ-associated proteins from PC-12 cells identified by TAPI. Western blot analysis of TAPI-purified polyQ aggregates from PC-12 cells confirms the presence of several disease-associated proteins only in the Htt-Q74 samples. All proteins migrated near their predicted molecular weights. For control, the TAPI procedure was conducted in parallel on the induced Htt-Q23 cell line (FUS, TDP-43, UBQLN2, HNRNPA1) or the un-induced Htt-Q74 cell line (CLINT1, HSPA8, RAD23B, SGTA). Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0136362), licensed under a CC-BY license.

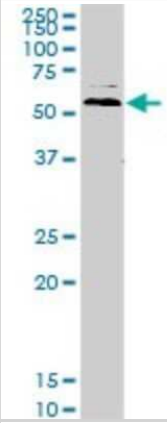
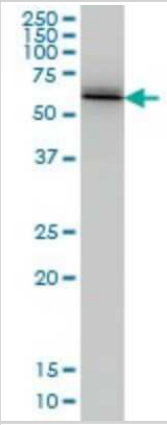
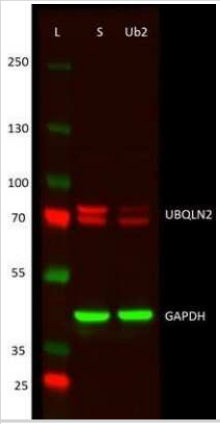
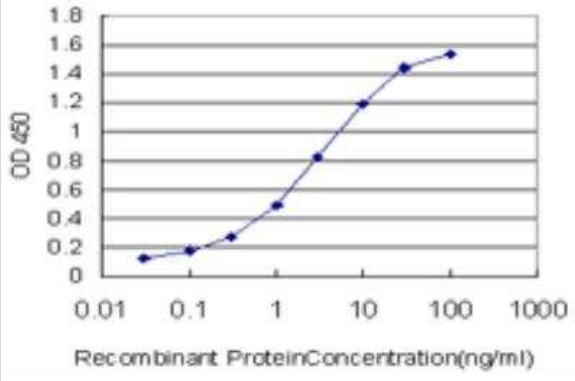


Immunocytochemistry/Immunofluorescence: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Analysis of monoclonal antibody to UBQLN2 on A-431 cell. Antibody concentration 10 ug/ml

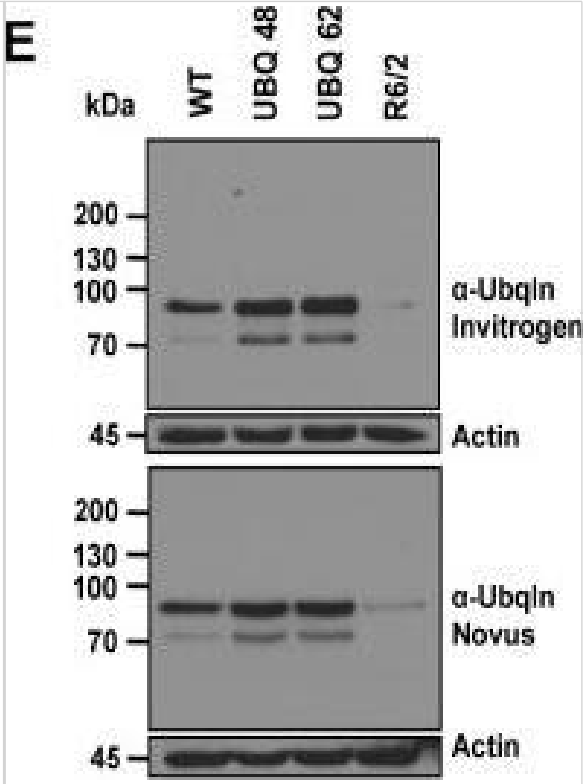


Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Analysis of UBQLN2 expression in PC-12 (Cat # L012V1).

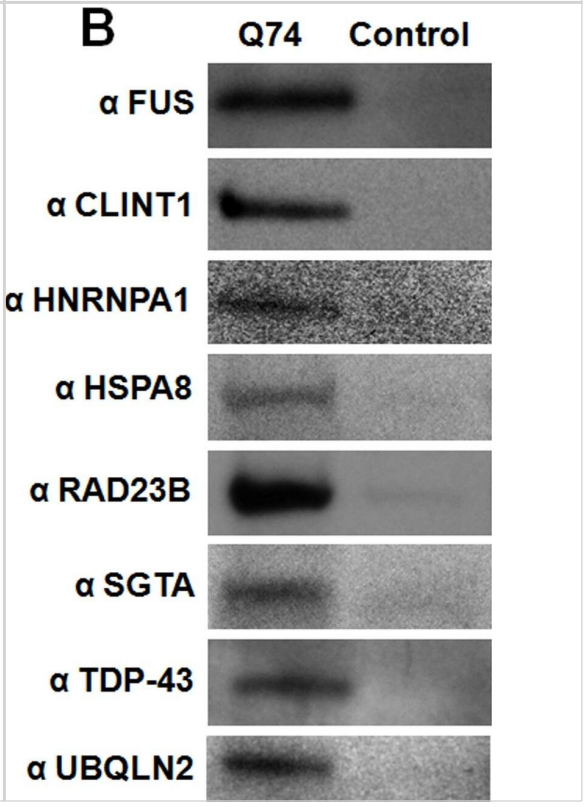


Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Analysis of UBQLN2 expression in Raw 264.7 (Cat # L024V1).	
Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Analysis of UBQLN2 expression in A-431 (Cat # L015V1).	
Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - UBQLN2 shRNA knockdown in SH-SY5Y cells. First lane is the ladder, then treatment with scrambled shRNA and third lane is UBQLN2 knockdown. 30 ug of the protein sample was loaded on the gel and transferred to the nitrocellulose membrane. Overnight incubation in primary antibodies at 4 degrees C in 5 % milk in TBST. Then incubated in secondary antibodies (Goat Anti-mouse DyLight 550) at RT for 2 h, and then imaged. Knockdown of the upper band with shRNA for UBQLN2 was about 82 %, and of the lower band only about 8 %, suggesting a high specificity of the used shRNA. This image was submitted via customer Review.	
ELISA: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Detection limit for recombinant GST tagged UBQLN2 is approximately 0.03ng/ml as a capture antibody.	

Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Generation of transgenic mice that overexpress human ubiquilin-1.(A) Schematic of the Thy1.2 expression construct used to generate ubiquilin-1 transgenic mice. Human ubiquilin-1 with an N-terminal FLAG tag was cloned in the appropriate orientation between the XhoI site of the Thy1.2 expression cassette. (B) Southern Blot of the first generation offspring of two founder mice (48 & 62). (C) Validation of a PCR genotyping protocol. Amplification of the transgene was only observed in mice that Southern blotting revealed to be positive. (D) Immunoblots of brain cortical lysates with an anti-FLAG antibody & for tubulin indicated that line 62 offspring express higher levels of FLAG-ubiquilin-1 than line 48. (E) Immunoblots of equal amounts of total brain lysates from 12 month-old WT mouse, 12 month-old Ubqln-1 48 transgenic mouse, 12 month-old Ubqln-1 62 transgenic mouse & end stage 15 week-old R6/2 transgenic mouse. The top panel was probed with a monoclonal anti-ubiquilin antibody (Invitrogen antibody clone 3D5E2) & the lower panel with a different monoclonal anti-ubiquilin antibody (Novus antibody clone 5F5). Note two immunoreactive ubiquilin bands are seen at □70 kDa & at □90 kDa, which we presume is a modified form of ubiquilin. Both blots were also probed for actin to ensure equal loading. (F) Cryostat sections of a Ubqln-1 62 transgenic mouse brain (a–f) & WT mouse brain (g-i) showing anti-FLAG antibody staining (Alexa 594, left panels) & corresponding DAPI staining (center panels) & the result of merging the fluorescent & DAPI signals (right hand panels). The brain sections shown are of the hippocampus (a–c & g–i) & cerebellum (d–f). Identical exposure settings were used for the left hand panels. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/24475300), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: Ubiquilin 2 Antibody (5F5) [H00029978-M03] - Confirmation of polyQ-associated proteins from PC-12 cells identified by TAPI.(A) Western blotting shows that the addition of doxycycline to the PC-12 cell model induces the expression of HttQ74-GFP, resulting in aggregates that can be purified by TAPI. The kinase ERK is probed as a negative control; ERK was never identified by mass spectrometry, so is not expected to co-fractionate with polyQ aggregates. (B) Western blot analysis of TAPI-purified polyQ aggregates from PC-12 cells confirms the presence of several disease-associated proteins only in the Htt-Q74 samples. All proteins migrated near their predicted molecular weights. For control, the TAPI procedure was conducted in parallel on the induced Htt-Q23 cell line (FUS, TDP-43, UBQLN2, HNRNPA1) or the un-induced Htt-Q74 cell line (CLINT1, HSPA8, RAD23B, SGTA). (C) Confocal microscopy shows localization of identified proteins to Htt-Q74 aggregates in PC12 cells. (left) RAD23B, nominally a DNA repair protein, localizes to nuclear Htt-Q74 inclusions but not cytoplasmic inclusions. (middle) FUS, an RNA-binding protein localizes to nuclear & cytoplasmic Htt-Q74 inclusions. (right) CLINT1, a clatherin-interacting protein, is observed in cytoplasmic Htt-Q74 aggregates. Arrows indicate foci with co-localized proteins. Green = GFP; Magenta = CLINT1, FUS or RAD23B in merge. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0136362), licensed under a CC0-1.0 license. Not internally tested by Novus Biologicals.



Publications

Laura R. Nementzik, Kyrah M. Thumbadoo, Helen C. Murray, David Gordon, Shu Yang, Ian P. Blair, Clinton Turner, Richard L. M. Faull, Maurice A. Curtis, Catriona McLean, Garth A. Nicholson, Molly E. V. Swanson, Emma L. Scotter Distribution of ubiquilin 2 and TDP □43 aggregates throughout the CNS in UBQLN2 p. T487I □linked amyotrophic lateral sclerosis and frontotemporal dementia Brain Pathology 2023-12-19 [PMID: 38115557]

Freischmidt A, Wieland T, Richter B et al. Haploinsufficiency of TBK1 causes familial ALS and fronto-temporal dementia Nature Neuroscience 2015-05-01 [PMID: 25803835] (Immunohistochemistry)

Nementzik L, Thumbadoo K, Murray H et al. Distribution of ubiquilin 2 and TDP-43 aggregates throughout the CNS inUBQLN2p.T487I-linked amyotrophic lateral sclerosis and frontotemporal dementia bioRxiv 2023-02-10 (IHC, Human)

Halloran M, Ragagnin AMG, Vidal M, et al. Amyotrophic lateral sclerosis-linked UBQLN2 mutants inhibit endoplasmic reticulum to Golgi transport, leading to Golgi fragmentation and ER stress Cell. Mol. Life Sci. 2019-12-04 [PMID: 31802140] (WB)

Chen T, Huang B, Shi X et al. Mutant UBQLN2P497H in motor neurons leads to ALS-like phenotypes and defective autophagy in rats. Acta Neuropathol Commun 2018-11-08 [PMID: 30409191]

Ito M, Nakamura K, Mori F et al. Novel eosinophilic neuronal cytoplasmic inclusions in the external cuneate nucleus of humans. Neuropathology 2016-03-03 [PMID: 26935872]

Riku Y, Watanabe H, Yoshida M et al. Pathologic Involvement of Glutamatergic Striatal Inputs From the Cortices in TAR DNA-Binding Protein 43 kDa-Related Frontotemporal Lobar Degeneration and Amyotrophic Lateral Sclerosis. J Neuropathol Exp Neurol 2017-09-01 [PMID: 28859339]

Wang CH, Huang YC, Chen PY et al. USP5/Leon deubiquitinase confines postsynaptic growth by maintaining ubiquitin homeostasis through Ubiquilin. Elife 2017-05-10 [PMID: 28489002]

Riku Y, Watanabe H, Yoshida M et al. Marked Involvement of the Striatal Efferent System in TAR DNA-Binding Protein 43 kDa-Related Frontotemporal Lobar Degeneration and Amyotrophic Lateral Sclerosis. J Neuropathol Exp Neurol 2016-06-26 [PMID: 27346748]

Shimada K, Fujii T, Tatsumi Y et al. Ubiquilin2 as a novel marker for detection of urothelial carcinoma cells in urine. Diagn Cytopathol 2016-01-01 [PMID: 26303000]

Arvaniti M, Jensen MM, Soni N et al. Functional interaction between Lypd6 and nicotinic acetylcholine receptors. J Neurochem 2016-09-01 [PMID: 27344019] (WB, Rat)

Al-Sarraj S, King A, Troakes C et al. p62 positive, TDP-43 negative, neuronal cytoplasmic and intranuclear inclusions in the cerebellum and hippocampus define the pathology of C9orf72-linked FTLD and MND/ALS. Acta Neuropathol. 2011-11-19 [PMID: 22101323]

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