Datasheet for ABIN1580461

anti-Ubiquilin 2 antibody

2 Images

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Overview

Quantity:	100 µL
Target:	Ubiquilin 2 (UBQLN2)
Reactivity:	Human, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This Ubiquilin 2 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Clone:	6H9
Isotype:	IgG1
Purification:	affinity purified antibody

Target Details

Target:	Ubiquilin 2 (UBQLN2)
Alternative Name:	Ubiquilin 2 (UBQLN2 Products)
Background:	Ubiquilin 2, also known as PLIC2 and Chap1, is a member of the ubiquilin protein family, which regulate the degradation of cellular proteins through proteasome or autophage-like pathways. Humans have four ubiquilin genes, each encoding a separate protein referred to as Ubiquilin 1, 2, 3 and 4. All ubiquilins contain an N-terminal ubiquitin-like (UBL) domain and a C-terminal

Target Details

	ubiquitin-associated (UBA) domain, while the central part of the molecules are highly variable. The UBL domains bind subunits of the proteasome, and the UBA domains binds to polyubiquitin chains that are typically conjugated onto proteins marked for proteosomal degradation. Ubiquilin 2 has a unique region close to the C terminus containing 12 PXX tandem collagen like repeats, where P is proline and X is most cases valine, glycine, isoleucine or threonine. Teepu Siddique and his collaborators have identified mutations in the ubiquilin 2 gene leading to protein point mutations which were important contributors to several forms of amyotrophic lateral sclerosis (ALS) and Frontotemporal lobar degeneration (FTLD). Interestingly, these mutations involved alterations in proline residues in the PXX repeat region (P497H, P497S, P506T, P509S and P525S, ref. 4). Recently, the Lee and Trojanowski group investigated C9orf72 hexanucleotide expansion and ubiquilin 2 pathology in patients with ALS and FTLD by genetic analysis and immunohistochemistry and found distinct ubiquilin 2 pathology in ALS and FTLD-TDP with C9orf72 expansion. C9orf72 hexonucleotide expansion is the most common cause to date of familial ALS and FTLD. Ubiquilin 2 protein is of different molecular size in mouse and human, 638 and 624 amino acids respectively. As a result the mouse protein, endogenously expressed in rodent 3T3 cells, runs on SDS-PAGE and western blots slightly slower than the human protein. Our antibody MCA-6H9 was raised against human ubiquilin 2 expressed in and purified from E. coli. The HGNC name for this protein is UBQLN2.

Application Details

Application Notes:	Try at dilutions of ~1:1,000 for immunofluorescence. For western blots try at 1:1,000-2,000. A suitable control tissue is HeLa cell lysates. The ubiqulin 2 protein runs at about ~66 kDa (human) and 68 kDa (mouse) on SDS-PAGE gels
Restrictions:	For Research Use only

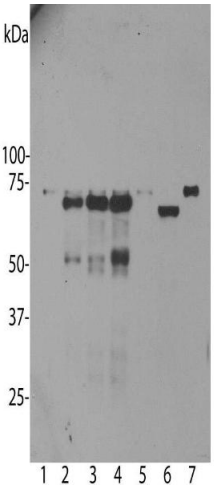
Handling

Format:	Liquid
Concentration:	1 mg/mL
Preservative:	Sodium azide
Precaution of Use:	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	Avoid repeated freezing and thawing.
Storage:	4 °C/-20 °C

Handling

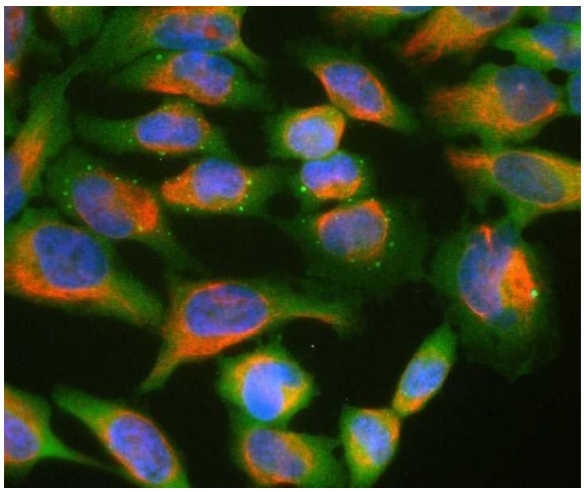
Storage Comment:	Store at 4°C short term or -20°C long term.

Images



Western Blotting

Image 1. Western blot analysis of untransfected primary mouse neuron and glia cell cultures (lane 1), the same cells transduced with human ubiquilin 2 wild type (lane 2), with ubiquilin 2 P506T mutant (lane 3), with ubiquilin 2 P497S mutant (lane 4) and with enhanced GFP control (lane 5), all probed with ABIN1580461. Also seen is ABIN1580461 staining in HeLa cells (lane 6) and 3T3 cells (lane 7). In primary mouse neuron and glia cell culture, endogenous ubiquilin 2 appears as a weak band at 68 kDa in all transduced and non-transduced cells, indicating low endogenous expression of mouse ubiquilin 2. Strong bands are seen in the cells transduced with human wild type or mutant ubiquilin 2. Small proteins run at 50 kDa in these cells are the fragments of ubiquilin 2. Note, ubiquilin 2 run at ~66 kDa in human HeLa cells and 68 kDa in rodent 3T3 cells.



Immunofluorescence

Image 2. HeLa cell cultures stained with ABIN1580461 (green) and ’s chicken polyclonal antibody to vimentin: CPCA-Vim (red). In most individual cells ubiquilin 2 is present diffusely in the cytoplasm of cells, though some cells show enrichment of the protein in spherical autophagosome-like structure.