

#### DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                        |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human Ubiquilin 1 in direct ELISAs and Western blots.                                |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                         |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                    |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human Ubiquilin 1<br>Arg546-Gly585<br>Accession # Q9UMX0 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm              |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                 |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                              |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Ubiquilin-1 (also known as DA41 and PLIC-1/Protein Linking IAP with Cytoskeleton 1) is a 62-70 kDa intracellular member of the UBL-UBA family of proteins. Consistent with its name, it ubiquitously expressed, and is particularly prominent in skeletal muscle and neurons. Multiple functions have been attributed to ubiquilin-1. For instance, it is now known to be a key player in APP processing. On the cleavage side, ubiquilin-1 binds to PS/presenilin, a component of the γ-secretase complex that cleaves APP. Ubiquilin-1 appears to target both ubiquitinated single chain PS to the proteosome, and aggregated PS to the aggresome. With respect to APP, ubiquilin-1 serves as a molecular chaperone, binding to and inhibiting APP aggregation. On cells expressing CD47, Ubiquilin-1 acts as an intermediary between integrins, the cytoskeleton and CD47, promoting cell spreading. And in neurons, ubiquilin-1 stabilizes both membrane and GABA subunit stability, enhancing inhibitory synaptic transmission. Human ubiquilin-1 is 589 amino acids (aa) in length. It contains one ubiquitin-like domain (aa 37-111), an S5a binding site (aa 72-105) and a UBA binding region (aa 548-585). There are multiple splice variants, ranging from 19-59 kDa in size. One shows a deletion of aa 418-445, a second contains a three aa substitution for aa 151-589, a third possesses a 29 aa substitution for aa 112-589, and a fourth shows a deletion of aa 61-237 coupled to a second deletion of aa 361-589. Over aa 546-585, human and mouse ubiquilin-1 are identical in amino acid sequence.

#### PRODUCT SPECIFIC NOTICES

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