**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human Ubiquilin 1 in direct ELISAs and Western blots.

**Source** Polyclonal Sheep IgG

**Purification** Antigen Affinity-purified

**Immunogen** E. coli-derived recombinant human Ubiquilin 1

**Accession #** Q9UMX0

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.*

**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.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Recommended Concentration</th>
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<tbody>
<tr>
<td>Western Blot</td>
<td>2 μg/mL See Below</td>
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**DATA**

**Western Blot**

Detection of Human Ubiquilin 1 by Western Blot. Western blot shows lysates of TT human medullary thyroid cancer cell line, IMR-32 human neuroblastoma cell line, and PC-3 human prostate cancer cell line. PVDF membrane was probed with 2 μg/mL of Sheep Anti-Human Ubiquilin 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7969) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Ubiquilin 1 at approximately 65-70 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**PREPARATION AND STORAGE**

**Reconstitution** Sterile PBS to a final concentration of 0.2 mg/mL.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.*

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

**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.