Revision 1

Store at -20C

#2730

# SHIP2 Antibody

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355)
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H | Endogenous | 160 | Rabbit | #O15357 | 3636 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

## Specificity/Sensitivity

SHIP2 Antibody detects the endogenous levels of total SHIP2 protein. It does not cross-react with SHIP1.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala1083 of human SHIP2. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

SH2-containing inositol phosphatase 1 (SHIP1) is a hematopoietic phosphatase that hydrolyzes phosphatidylinositol-3,4,5-triphosphate to phosphatidylinositol-3,4-bisphosphate (1). SHIP1 is a cytosolic phosphatase with an SH2 domain in its amino terminus and two NPXY Shc binding motifs in its carboxy terminus (1,2). Upon receptor cross-linking, SHIP is first recruited to the membrane junction through binding of its SH2 domain to the phospho-tyrosine in the ITIM motif (2), followed by tyrosine phosphorylation on the NPXY motif (2). The membrane relocalization and phosphorylation on the NPXY motif is essential for the regulatory function of SHIP1 (3-5). Its effect on calcium flux, cell survival, growth, cell cycle arrest, and apoptosis is mediated through the PI3K and Akt pathways (3-5). Tyr1022 is located in one of the NPXY motifs in SHIP1, and its phosphorylation is important for SHIP1 function (6).

SHIP2, a homolog of SHIP1, is highly expressed in heart, skeletal muscle and placenta (7). SHIP2 negatively regulates insulin signaling (8) and polymorphisms in SHIP2 have been linked to hyperglycemia (9). Recent studies also suggest SHIP2 as a therapeutic target for the treatment of both obesity and type 2 diabetes (10,11).

## Background References

1. Tridandapani, S. et al. (1997) *Mol Cell Biol* 17, 4305-11.
2. Liu, L. et al. (1997) *J Biol Chem* 272, 8983-8.
3. Malbec, O. et al. (2001) *J Biol Chem* 276, 30381-91.
4. Carver, D.J. et al. (2000) *Blood* 96, 1449-56.
5. Scharenberg, A.M. et al. (1998) *EMBO J* 17, 1961-72.
6. Sattler, M. et al. (2001) *J Biol Chem* 276, 2451-8.
7. Pesesse, X. et al. (1997) *Biochem. Biophys. Res. Commun.* 239, 697-700.
8. Wada, T. et al. (2001) *Mol. Cell Biol.* 21, 1633-1646.
9. Ishida, S. et al. (2006) *Pancreas* 33, 63-67.
10. Dyson, J.M. et al. (2005) *Int. J. Biochem. Cell Biol.* 37, 2260-2265.
11. Sasaoka, T. et al. (2006) *Pharmacol Ther* 112, 799-809.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human

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## Limited Uses

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