

SHIP (A-20): sc-14501

BACKGROUND

The production, survival and function of monocytes and macrophages are regulated by the macrophage colony-stimulating factor M-CSF through its tyrosine kinase receptor Fms. Binding of M-CSF to Fms induces the tyrosine phosphorylation and association of SH2-containing inositol phosphatase SHIP with the phosphotyrosine-binding domain of Shc. The SHIP protein hydrolyzes PtdIns P3 to PtdIns Ps and results in strong inhibition of cell growth. SHIP is also a target for CD28, suggesting that SHIP may be involved in the regulation of T cell activation. SHIP has several splice variants and is expressed during hematopoiesis and spermatogenesis. SHIP-2, a homolog of SHIP, is expressed in both haemopoietic and non-haemopoietic cells. In addition to T-cells and B-cells, spleen, thymus and lung are shown to co-express SHIP and SHIP-2. SHIP is also expressed in fibroblasts, heart, skeletal muscle and different brain areas and its expression is enhanced in TSH and EGF-stimulated cells. Like SHIP, SHIP-2 is tyrosine-phosphorylated and associates with Shc after ligation of the B cell receptor to FcγRII. SHIP-2 causes cell cycle arrest in G1 phase in glioblastoma cells and plays a negative role in regulating the PI3K-PI3K-protein kinase B pathway. Both SHIP and SHIP-2 mediate FcγRIIB signaling, including inhibition of proliferation.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: INPP5D (human) mapping to 2q37.1, INPP1 (human) mapping to 11q13.4, Inpp5d (mouse) mapping to 1 D, Inpp1 (mouse) mapping to 7 E3.

SOURCE

SHIP (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SHIP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SHIP (A-20) is recommended for detection of SHIP-1 and SHIP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SHIP (A-20) is also recommended for detection of SHIP-1 and SHIP-2 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of SHIP: 145 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SHIP-1 (P1C1): sc-8425** or **SHIP-2 (E-2): sc-166641**, our highly recommended monoclonal alternatives to SHIP (A-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SHIP-1 (P1C1): sc-8425**.