

**SIRPα/SHPS1 (D6I3M) Rabbit mAb**

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-Bond, IHC-P, IF-IC, FC-FP	H M R Mk	Endogenous	85 (human, monkey), 100 (rat), 120 (murine isoform 1), 55 (murine isoform 2)	Rabbit IgG	#P78324	140885

**Product Usage Information****Application**

Western Blotting  
IHC Leica Bond  
Immunohistochemistry (Paraffin)  
Immunofluorescence (Immunocytochemistry)  
Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:1000  
1:50 - 1:200  
1:50 - 1:100  
1:50 - 1:100  
1:50 - 1:200

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

For a carrier free (BSA and azide free) version of this product see product #47027.

**Specificity/Sensitivity**

SIRPα/SHPS1 (D6I3M) Rabbit mAb recognizes endogenous levels of total SHPS1 protein. This antibody recognizes both large and small isoforms of murine mSHPS1/SIRPα.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro413 of human SIRPα/SHPS1 protein.

**Background**

SHP-substrate 1 (SHPS1, SIRPα) is a single-pass membrane protein and member of both the immunoglobulin superfamily and the signal regulatory protein (SIRP) family. Following growth hormone stimulation or integrin binding, SHPS1 is phosphorylated at several tyrosine residues within its cytoplasmic tail. These phosphorylation events promote association between SHPS1 and multiple signaling proteins, including SHP-1, SHP-2, Grb2 and Shc via their SH2 domains (1-4). Recruitment of SHP-1 and SHP-2 results in SHPS1 dephosphorylation and suppression of tyrosine kinase signaling (1-3,5). The tyrosine kinase JAK2 associates with SHPS1 via its carboxy terminus and phosphorylates SHPS1 in response to extracellular stimuli (5). Research studies show that Src associates with and may phosphorylate SHPS1 in response to insulin (4). In macrophages, SHPS1 can form a complex with the Src pathway adaptor protein SKAP2, Fyn-binding protein FYB, and the tyrosine kinase PYK2 (6). The SHPS1 extracellular domain contains at least three IgG-like domains that interact with CD47, a ubiquitously expressed, integrin-associated protein that acts as a repressive cue in both immune and neuronal cells (7,8). The interaction between CD47 and SHPS1 on opposing cells can inhibit cellular migration (9), promote "tethering" between macrophages and target cells during engulfment (10), facilitate self versus non-self recognition (11), and maintain immune homeostasis (12). SHPS1 plays a critical role in modulating the immune response and inflammation, and may play a role in neuronal development (13,14). The interaction between SHPS1 and CD47 may be an exploitable target in cancer therapy (15-17).

**Background References**

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<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.
<b>Applications Key</b>	<b>W:</b> Western Blotting <b>IHC-Bond:</b> IHC Leica Bond <b>IHC-P:</b> Immunohistochemistry (Paraffin) <b>IF-IC:</b> Immunofluorescence (Immunocytochemistry) <b>FC-FP:</b> Flow Cytometry (Fixed/Permeabilized)
<b>Cross-Reactivity Key</b>	<b>H:</b> Human <b>M:</b> Mouse <b>R:</b> Rat <b>Mk:</b> Monkey
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