

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                 |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human SH2D1A 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 SH2D1A<br>Met1-Pro128<br>Accession # O60880 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 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

SH2D1A (Src-Homology 2 Domain-Containing protein A1; also SAP and DSHP) is a 15-19 kDa protein that represents the product of the XLP (X-linked Lymphoproliferative Disease) gene. It is a cytoplasmic protein that is expressed in T cells, NK cells, and memory B cells. SH2D1A interacts with the SH2 binding domains of at least six SLAM family cell membrane proteins, including Ly9, CD84, 2B4/CD244, NTBA, CS1 and SLAM/CD150. This has the effect of blocking an SHP2 interaction with the above phosphorylated receptors and abrogating downstream signaling. Notably, SH2D1A also recruits and activates the Src kinase Fyn when bound to SLAM family molecules, and this action presumably impacts additional downstream signaling. Human SH2D1A is 128 amino acids (aa) in length. Although it contains only one SH2 domain (aa 6-104), this domain can be utilized simultaneously by SLAM and Fyn, creating a trimeric complex. There are multiple splice variants for SH2D1A. One shows a three aa deletion of aa 114-116, a second possesses a nine aa substitution for aa 68-128, a third contains a 16 aa substitution for aa 47-128, a fourth possesses a 12 aa substitution for aa 47-128, while a fifth contains a 37 aa substitution for aa 40-128. Full length human SH2D1A shares 88% aa identity with mouse SH2D1A.

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