abcam

Product datasheet

Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] ab62322

Recombinant RabMAb

25 References 6 Images

Overview

Product name	Anti-SHP2 (phospho Y542) antibody [EP508(2)Y]
Description	Rabbit monoclonal [EP508(2)Y] to SHP2 (phospho Y542)
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IP **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Treated NIH/3T3 cell lysate.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EP508(2)Y

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab62322 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/100 - 1/250.
WB		1/1000. Detects a band of approximately 68 kDa (predicted molecular weight: 68 kDa). **For unpurified use at 1/50000- 1/100000.**
IP		1/30. **For unpurified use at 1/40**

Application notes Is unsuitable for Flow Cyt.

Target

Function Acts downstream of various receptor and cytoplasmic protein tyrosine kinases to participate in the signal transduction from the cell surface to the nucleus.

Tissue specificity Widely expressed, with highest levels in heart, brain, and skeletal muscle.

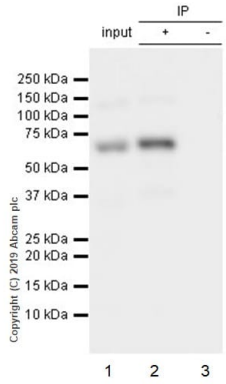
Involvement in disease Defects in PTPN11 are the cause of LEOPARD syndrome type 1 (LEOPARD1) [MIM:151100]. It is an autosomal dominant disorder allelic with Noonan syndrome. The acronym LEOPARD stands for lentigines, electrocardiographic conduction abnormalities, ocular hypertelorism, pulmonic stenosis, abnormalities of genitalia, retardation of growth, and deafness.
Defects in PTPN11 are the cause of Noonan syndrome type 1 (NS1) [MIM:163950]. Noonan syndrome (NS) is a disorder characterized by dysmorphic facial features, short stature, hypertelorism, cardiac anomalies, deafness, motor delay, and a bleeding diathesis. Some patients with Noonan syndrome type 1 develop multiple giant cell lesions of the jaw or other bony or soft tissues, which are classified as pigmented villomoduolar synovitis (PVNS) when occurring in the jaw or joints. Note=Mutations in PTPN11 account for more than 50% of the cases. Rarely, NS is associated with juvenile myelomonocytic leukemia (JMML). NS1 inheritance is autosomal dominant.
Defects in PTPN11 are a cause of juvenile myelomonocytic leukemia (JMML) [MIM:607785]. JMML is a pediatric myelodysplastic syndrome that constitutes approximately 30% of childhood cases of myelodysplastic syndrome (MDS) and 2% of leukemia. It is characterized by leukocytosis with tissue infiltration and in vitro hypersensitivity of myeloid progenitors to granulocyte-macrophage colony stimulating factor.
Defects in PTPN11 are a cause of metachondromatosis (MC) [MIM:156250]. It is a skeletal disorder with radiologic fetarures of both multiple exostoses and Ollier disease, characterized by the presence of multiple enchondromas and osteochondroma-like lesions.

Sequence similarities Belongs to the protein-tyrosine phosphatase family. Non-receptor class 2 subfamily.
Contains 2 SH2 domains.
Contains 1 tyrosine-protein phosphatase domain.

Domain The SH2 domains repress phosphatase activity. Binding of these domains to phosphotyrosine-containing proteins relieves this auto-inhibition, possibly by inducing a conformational change in

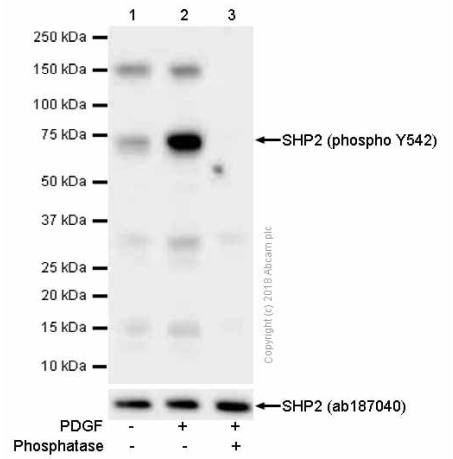
	the enzyme.
Post-translational modifications	Phosphorylated on Tyr-546 and Tyr-584 upon receptor protein tyrosine kinase activation; which creates a binding site for GRB2 and other SH2-containing proteins.
Cellular localization	Cytoplasm.

Images



Immunoprecipitation - Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

ab62322 (purified) at 1:30 dilution (2µg) immunoprecipitating SHP2 in NIH/3T3 treated with 50ng/ml PDGF for 40min whole cell lysate.
Lane 1 (input): NIH/3T3 (Mouse embryonic fibroblast) treated with 50ng/ml PDGF for 40min whole cell lysate 10µg
Lane 2 (+): ab62322 & NIH/3T3 treated with 50ng/ml PDGF for 40min whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab62322 in NIH/3T3 treated with 50ng/ml PDGF for 40min whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.



Western blot - Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

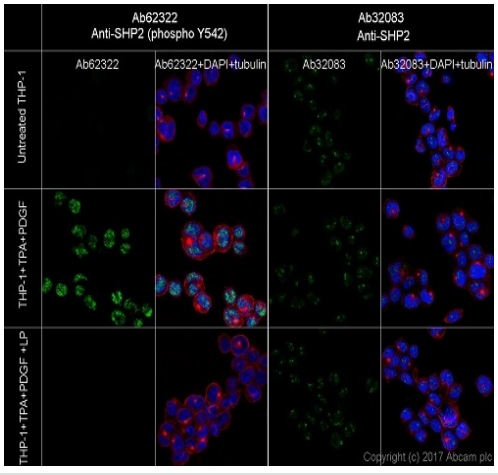
All lanes : Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322) at 1/1000 dilution (Purified)

Lane 1 : NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates
Lane 2 : NIH/3T3 (Mouse embryonic fibroblast) treated with 40ng/ml PDGF for 40 minutes whole cell lysates
Lane 3 : NIH/3T3 (Mouse embryonic fibroblast) treated with 40ng/ml PDGF for 40 minutes then incubated with phosphatase

Lysates/proteins at 15 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

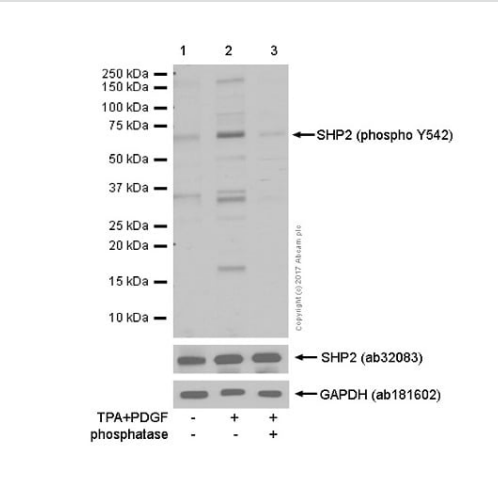
Predicted band size: 68 kDa
Observed band size: 68 kDa



Immunocytochemistry/ Immunofluorescence - Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

Ab62322 staining SHP2 in THP-1 cells (Human monocytic leukaemia cell line) by ICC/IF (immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. Samples were incubated with purified ab62322 at 8.8 µg/ml. Secondary antibody used was AlexaFluor®488 Goat anti-Rabbit (**ab150077**) at 2 µg/ml. Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)(**ab195889**) used as counterstain at 2.5 µg/ml . DAPI was used as nuclear counterstain. Confocal image showing the expression was increased after treatment with TPA 200nM for 24h and PDGF 50ng/ml for 30min, the signal decreased after treatment with Lambda Protein Phosphatase 31**I** for 2h.

This image was generated using the unpurified version of the product.



Western blot - Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

All lanes : Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322) at 1/200 dilution

Lane 1 : THP-1 (Human monocytic leukemia monocyte) whole cell lysates
Lane 2 : THP-1 (Human monocytic leukemia monocyte) treated with Phorbol-12-myristate-13-acetate and platelet-derived growth factor.
Lane 3 : THP-1 (Human monocytic leukemia monocyte) treated with Phorbol-12-myristate-13-acetate and platelet-derived growth factor.Then the membrane was incubated with phosphatase.

Lysates/proteins at 15 µg per lane.

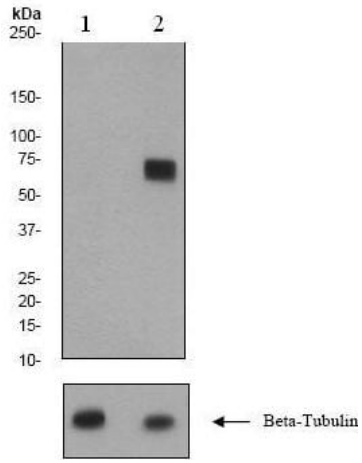
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 68 kDa
Observed band size: 68 kDa

Blocking and diluting buffer used was 5% NFDM/TBST.

Purified batch of ab62322 was used.

This image was generated using the unpurified version of the product.



Western blot - Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

All lanes : Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322) at 1/50000 dilution

Lane 1 : NIH/3T3 cell lysates; untreated
Lane 2 : NIH/3T3 cell lysates; treated with PDGF

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : goat anti-rabbit HRP conjugated, at 1/2000 dilution

Predicted band size: 68 kDa
Observed band size: 68 kDa

Beta Tubulin has been included as a loading control.

This image was generated using the unpurified version of the product.

Anti-SHP2 (phospho Y542) antibody [EP508(2)Y] (ab62322)

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