

Product datasheet

Anti-NF2 / Merlin (phospho S518) antibody ab2478

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Overview

Product name	Anti-NF2 / Merlin (phospho S518) antibody
Description	Rabbit polyclonal to NF2 / Merlin (phospho S518)
Host species	Rabbit
Specificity	This phospho specific polyclonal antibody is specific for phosphorylated Ser 518 of human NF2 (neurofibromatosis 2 gene product). Reactivity with non-phosphorylated Human NF2 (Merlin) is minimal by ELISA. Cross reactivity with NF2 (Merlin) occurs in mouse tissue. Reactivity with NF2 from other sources has not been determined.
Tested applications	Suitable for: IHC-P, WB
Species reactivity	Reacts with: Mouse, Human
Immunogen	Human NF2/ Merlin phospho peptide corresponding to a region of the human protein conjugated to Keyhole Limpet Hemocyanin (KLH) - TDMKRL(pS)MEIEK (aa 508-530). Run BLAST with Run BLAST with

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, 0.01% Sodium Azide, pH 7.2
Purity	Immunogen affinity purified
Purification notes	This antibody was affinity purified from monospecific antiserum by immunoaffinity purification. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross-adsorbed against the non-phosphorylated form of the immunizing peptide.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab2478** 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
IHC-P		Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB	★★★★☆	Use at an assay dependent concentration.

Target

Function

Probable regulator of the Hippo/SWH (Sav/Wts/Hpo) signaling pathway, a signaling pathway that plays a pivotal role in tumor suppression by restricting proliferation and promoting apoptosis. Along with WWC1 can synergistically induce the phosphorylation of LATS1 and LATS2 and can probably function in the regulation of the Hippo/SWH (Sav/Wts/Hpo) signaling pathway. May act as a membrane stabilizing protein. May inhibit PI3 kinase by binding to AGAP2 and impairing its stimulating activity. Suppresses cell proliferation and tumorigenesis by inhibiting the CUL4A-RBX1-DDB1-VprBP/DCAF1 E3 ubiquitin-protein ligase complex.

Tissue specificity

Widely expressed. Isoform 1 and isoform 3 are predominant. Isoform 4, isoform 5 and isoform 6 are expressed moderately. Isoform 8 is found at low frequency. Isoform 7, isoform 9 and isoform 10 are not expressed in adult tissues, with the exception of adult retina expressing isoform 10. Isoform 9 is faintly expressed in fetal brain, heart, lung, skeletal muscle and spleen. Fetal thymus expresses isoforms 1, 7, 9 and 10 at similar levels.

Involvement in disease

Defects in NF2 are the cause of neurofibromatosis 2 (NF2) [MIM:101000]; also known as central neurofibromatosis. NF2 is a genetic disorder characterized by bilateral vestibular schwannomas (formerly called acoustic neuromas), schwannomas of other cranial and peripheral nerves, meningiomas, and ependymomas. It is inherited in an autosomal dominant fashion with full penetrance. Affected individuals generally develop symptoms of eighth-nerve dysfunction in early adulthood, including deafness and balance disorder. Although the tumors of NF2 are histologically benign, their anatomic location makes management difficult, and patients suffer great morbidity and mortality.

Defects in NF2 are a cause of schwannomatosis (SCHWA) [MIM:162091]; also known as congenital cutaneous neurilemmomatosis. Schwannomas are benign tumors of the peripheral nerve sheath that usually occur singly in otherwise normal individuals. Multiple schwannomas in the same individual suggest an underlying tumor-predisposition syndrome. The most common such syndrome is NF2. The hallmark of NF2 is the development of bilateral vestibular-nerve schwannomas; but two-thirds or more of all NF2-affected individuals develop schwannomas in other locations, and dermal schwannomas may precede vestibular tumors in NF2-affected children. There have been several reports of individuals with multiple schwannomas who do not show evidence of vestibular schwannoma. Clinical report suggests that schwannomatosis is a clinical entity distinct from other forms of neurofibromatosis.

Sequence similarities

Contains 1 FERM domain.

Post-translational modifications

Phosphorylation of Ser-518 inhibits nuclear localization by disrupting the intramolecular association of the FERM domain with the C-terminal tail.

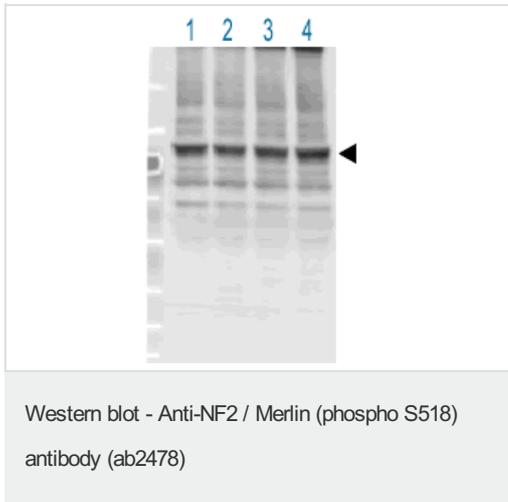
Ubiquitinated by the CUL4A-RBX1-DDB1-DCAF1/VprBP E3 ubiquitin-protein ligase complex for ubiquitination and subsequent proteasome-dependent degradation.

Cellular localization

Cytoplasm > perinuclear region. Cytoplasmic granule. Observed in cytoplasmic granules concentrated in a perinuclear location. Isoform 7 is absent from ruffling membranes and filopodia; Cytoplasm > perinuclear region. Cytoplasmic granule. Observed in cytoplasmic granules concentrated in a perinuclear location. Isoform 9 is absent from ruffling membranes and

filopodia; Nucleus. Cell projection > filopodium membrane. Cell projection > ruffle membrane. Cytoplasm > perinuclear region. Cytoplasmic granule. Cytoplasm > cytoskeleton. In a fibroblastic cell line, isoform 10 is found homogeneously distributed over the entire cell, with a particularly strong staining in ruffling membranes and filopodia and Cell projection > filopodium membrane. Cell projection > ruffle membrane. Nucleus. In a fibroblastic cell line, isoform 1 is found homogeneously distributed over the entire cell, with a particularly strong staining in ruffling membranes and filopodia. Colocalizes with MPP1 in non-myelin-forming Schwann cells. Binds with VPRBP in the nucleus. The intramolecular association of the FERM domain with the C-terminal tail promotes nuclear accumulation. The unphosphorylated form accumulates predominantly in the nucleus while the phosphorylated form is largely confined to the non-nuclear fractions.

Images

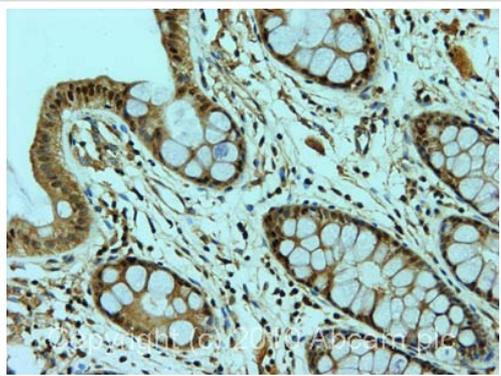


Rabbit polyclonal to phospho NF2 (Merlin) Ser 518 (ab2478) was used at a 1/1000 dilution to detect NF2 by Western blot.

Approximately 12 μ l of a mouse cardiac myocyte lysate was loaded per lane on a 4-20% Criterion gel for SDS-PAGE. Samples were either mock treated (lane 1) or CLA treated at 4nM, 20 nM or 100 nM (lanes 2,3 and 4 respectively) for 45'. After washing, a 1/5,000 dilution of HRP conjugated Goat-anti-Rabbit IgG (ab7090) was used as secondary antibody.

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NF2 / Merlin (phospho S518) antibody (ab2478)

IHC image of ab2478 staining in human normal colon formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab2478, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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