

Product datasheet

Anti-NG2 antibody ab83178

KO VALIDATED

★★★★★ 3 Abreviews 11 References 3 Images

Overview

Product name	Anti-NG2 antibody
Description	Rabbit polyclonal to NG2
Host species	Rabbit
Tested applications	Suitable for: IHC-FoFr, WB
Species reactivity	Reacts with: Rat, Human
Immunogen	Synthetic peptide corresponding to Human NG2 aa 1300-1400 conjugated to keyhole limpet haemocyanin. (Peptide available as ab96112)

General notes

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

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	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS
	Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab83178** 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-FoFr	★★★★★	Use at an assay dependent concentration.
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 300 kDa (predicted molecular weight: 251 kDa).

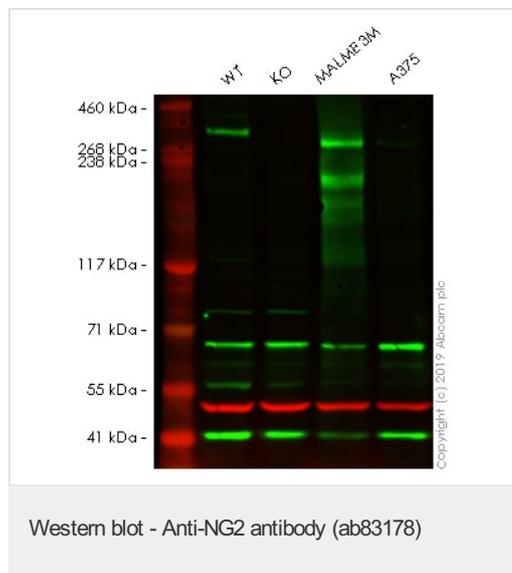
Target

Function	Proteoglycan playing a role in cell proliferation and migration which stimulates endothelial cells motility during microvascular morphogenesis. May also inhibit neurite outgrowth and growth cone collapse during axon regeneration. Cell surface receptor for collagen alpha 2(VI) which may confer cells ability to migrate on that substrate. Binds through its extracellular N-terminus growth factors, extracellular matrix proteases modulating their activity. May regulate MMP16-dependent degradation and invasion of type I collagen participating in melanoma cells invasion properties. May modulate the plasminogen system by enhancing plasminogen activation and inhibiting angiostatin. Functions also as a signal transducing protein by binding through its cytoplasmic C-terminus scaffolding and signaling proteins. May promote retraction fiber formation and cell polarization through Rho GTPase activation. May stimulate alpha-4, beta-1 integrin-mediated adhesion and spreading by recruiting and activating a signaling cascade through CDC42, ACK1 and BCAR1. May activate FAK and ERK1/ERK2 signaling cascades.
Tissue specificity	Detected only in malignant melanoma cells.
Sequence similarities	Contains 15 CSPG (NG2) repeats. Contains 2 laminin G-like domains.
Post-translational modifications	O-glycosylated; contains glycosaminoglycan chondroitin sulfate which are required for proper localization and function in stress fiber formation (By similarity). Involved in interaction with MMP16 and ITGA4. Phosphorylation by PRKCA regulates its subcellular location and function in cell motility.

Cellular localization

Apical cell membrane. Cell projection > lamellipodium membrane. Localized at the apical plasma membrane it relocates to the lamellipodia of astrocytoma upon phosphorylation by PRKCA. Localizes to the retraction fibers. Localizes to the plasma membrane of oligodendrocytes.

Images



All lanes : Anti-NG2 antibody (ab83178) at 1 μ g/ml

Lane 1 : Wild-type HELA whole cell lysate

Lane 2 : CSPG4 knockout HELA whole cell lysate

Lane 3 : Malme-3M whole cell lysate

Lane 4 : A375 whole cell lysate

Lysates/proteins at 20 μ g per lane.

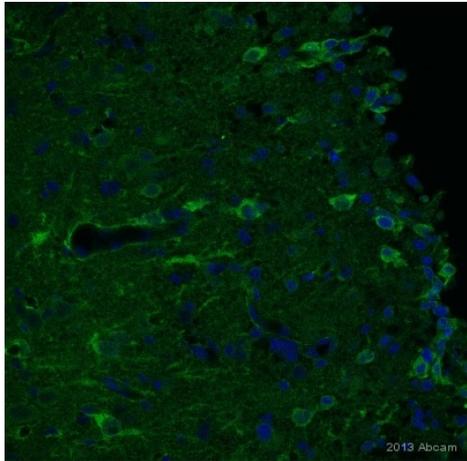
Predicted band size: 251 kDa

Observed band size: 300 kDa

[why is the actual band size different from the predicted?](#)

Lanes 1 - 4: Merged signal (red and green). Green - ab83178 observed at 300 kDa. Red - loading control, [ab7291](#), observed at 50 kDa.

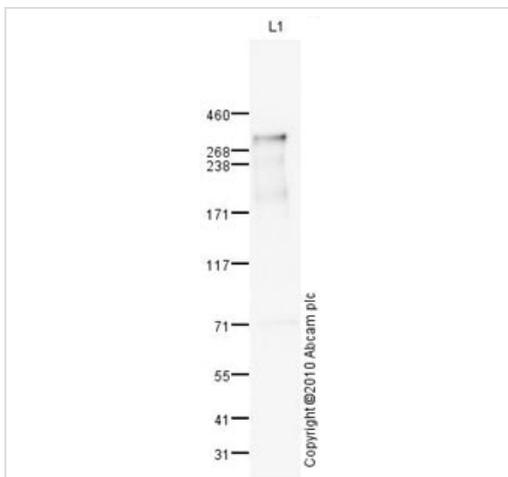
ab83178 was shown to recognize in wild-type HELA cells as signal was lost at the expected MW in CSPG4 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and CSPG4 knockout samples were subjected to SDS-PAGE. Ab83178 and [ab7291](#) (Mouse anti-tubulin loading control) were incubated overnight at 4°C at 1 μ g/ml and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed [ab216773](#) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed [ab216776](#) secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (PFA perfusion fixed frozen sections) - Anti-NG2 antibody (ab83178)

This image is courtesy of an abreview submitted by Ruma Raha-Chowdhury, University Of Cambridge, United Kingdom

IHC-FoFr image of NG2 staining on sections of rat cortex post injury using ab83178 (1:100). The brain was perfusion fixed using 4% PFA and the sections were permeabilized using 0.1% TritonX in 0.1% PBS. The sections were then blocked using 10% donkey serum for 1 hour at 24°C. ab83178 was diluted 1:100 and incubated with the sections for 24 hours at 4°C. The secondary antibody used was donkey polyclonal to rabbit IgG conjugated to Alexa Fluor 488 (1:1000).



Western blot - Anti-NG2 antibody (ab83178)

Anti-NG2 antibody (ab83178) at 1 µg/ml + Human skin tissue lysate
- total protein (ab30166) at 10 µg

Secondary

Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 251 kDa

Observed band size: 300 kDa [why is the actual band size different from the predicted?](#)

Additional bands at: 190 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 3 minutes

Human Chondroitin sulfate proteoglycan 4 precursor (NG2) contains a number of potential glycosylation sites (SwissProt) which may explain its migration at a higher molecular weight than predicted.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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