abcam

Product datasheet

Anti-NG2 antibody [HMB45] ab83508

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Overview

Product name	Anti-NG2 antibody [HMB45]
Description	Mouse monoclonal [HMB45] to NG2
Host species	Mouse
Tested applications	**Suitable for:** IHC-P, WB, IP, ELISA, Flow Cyt, ICC/IF, IHC-FrFl
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Cell membrane preparation from Human malignant melanoma SK-MEL-28.
Positive control	Human melanoma tissue. SK-MEL-28 cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS, pH 7.2 containing antibody stabilizer.
Purity	Ascites
Purification notes	Purified by isotyping-specific affinity purification.
Clonality	Monoclonal
Clone number	HMB45
Isotype	IgG1
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab83508** 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 2 - 5 µg/ml.

Application	Abreviews	Notes
WB		Use a concentration of 0.1 - 1 µg/ml. Predicted molecular weight: 251 kDa.
IP		Use a concentration of 2 - 5 µg/ml.
ELISA		Use a concentration of 0.01 - 0.1 µg/ml.
Flow Cyt	★★★☆☆	1/10 - 1/100. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
ICC/IF		Use at an assay dependent concentration. PubMed: 22701703
IHC-FrFl	★★★★☆	Use at an assay dependent concentration.

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 MPP16-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.

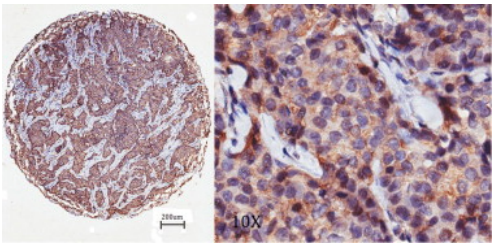
Post-translational modifications

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 relocalizes to the lamellipodia of astrocytoma upon phosphorylation by PRKCA. Localizes to the retraction fibers. Localizes to the plasma membrane of oligodendrocytes.

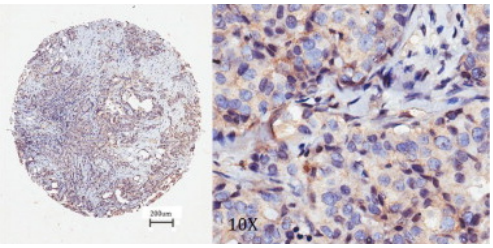
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NG2 antibody [HMB45] (ab83508)

Image from Hsu NC et al., Biochem Biophys Res Commun. 2013;441(2):514-8. Fig 1(C).; doi: 10.1016/j.bbrc.2013.10.093 with permission from Elsevier.

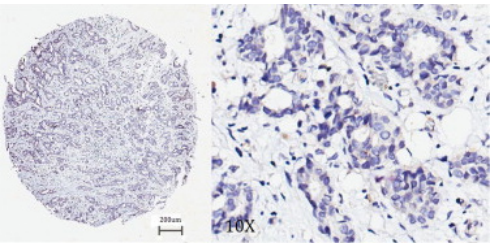
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast cancer tissue sections labelling NG2 with ab83508 at 1/50. 4µm-thick sections were deparaffinized in xylene, dehydrated through three alcohol changes. Endogenous peroxidase activity was quenched with 3% hydrogen peroxide in methanol. Antigen retrieval was performed in 96°C solution of 0.01 mol/L sodium citrate buffer (pH 6.0) for 30 minutes. Peroxidase/DAB, Rabbit/Mouse kit, after visualization, the sections were counterstained with hematoxylin. Hisg NG2 expression.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NG2 antibody [HMB45] (ab83508)

Image from Hsu NC et al., Biochem Biophys Res Commun. 2013;441(2):514-8. Fig 1(B).; doi: 10.1016/j.bbrc.2013.10.093 with permission from Elsevier.

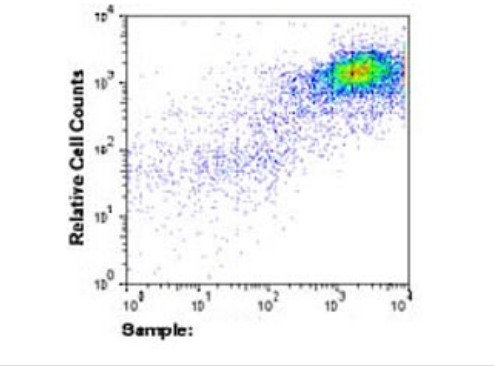
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast cancer tissue sections labelling NG2 with ab83508 at 1/50. 4µm-thick sections were deparaffinized in xylene, dehydrated through three alcohol changes. Endogenous peroxidase activity was quenched with 3% hydrogen peroxide in methanol. Antigen retrieval was performed in 96°C solution of 0.01 mol/L sodium citrate buffer (pH 6.0) for 30 minutes. Peroxidase/DAB, Rabbit/Mouse kit, after visualization, the sections were counterstained with hematoxylin. Low NG2 expression.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NG2 antibody [HMB45] (ab83508)

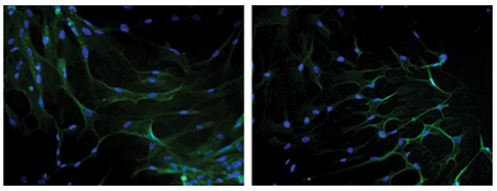
Image from Hsu NC et al., Biochem Biophys Res Commun. 2013;441(2):514-8. Fig 1(A).; doi: 10.1016/j.bbrc.2013.10.093 with permission from Elsevier.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast cancer tissue sections labelling NG2 with ab83508 at 1/50. 4µm-thick sections were deparaffinized in xylene, dehydrated through three alcohol changes. Endogenous peroxidase activity was quenched with 3% hydrogen peroxide in methanol. Antigen retrieval was performed in 96°C solution of 0.01 mol/L sodium citrate buffer (pH 6.0) for 30 minutes. Peroxidase/DAB, Rabbit/Mouse kit, after visualization, the sections were counterstained with hematoxylin. Negative NG2 expression.



Flow Cytometry - Anti-NG2 antibody [HMB45] (ab83508)

5 x 10^6 SK-MEL-28 cells were incubated with 5µg of ab83508, followed by APC-GtxMs IgG incubation.



Immunocytochemistry/ Immunofluorescence - Anti-NG2 antibody [HMB45] (ab83508)

Image from Keats E et al., PLoS One. 2012;7(6):e38752. Epub 2012 Jun 6. Fig 1.; doi:10.1371/journal.pone.0038752; June 6, 2012, PLoS ONE 7(6): e38752.

Immunofluorescence analysis of Human adult blood endothelial progenitor cells (left) and umbilical artery smooth muscle cells (right).

NG2 was stained using ab83508 at 1/200 dilution. Nuclei were stained with DAPI (blue).

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