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[Primary Antibody]

Rabbit Anti-NG2 antibody

Catalog Number: SL23787R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	NG2
Immunogen:	KLH conjugated synthetic peptide derived from human NG2
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 IF=1:100-500 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse(predicted:Rat,Pig,Cow,Horse)
Predicted MW.:	247kDa
Subcellular Location:	cytoplasmic The cell membrane
Background:	NG2 (also known as melanoma-associated chondroitin sulfate proteoglycan 4, MCSP, MCSPG, MSK16 and MEL-CSPG) stabilizes cell-substratum interactions during early events of melanoma cell spreading on endothelial basement membranes. NG2 may facilitate primary melanoma progression by enhancing the activation of key signaling pathways important for tumor invasion and growth. Threonine 2256 phosphorylation of rat NG2 (Threonine 2252 phosphorylation of human NG2) leads to redistribution of NG2 on the surface of astrocytomas, polarization of the cell and a significant increase in cell motility. NG2 acts as a co-receptor for spreading and focal contact formation in association with Alpha 4 Beta1 integrin in malignant melanoma cells. NG2 is present on blood vessels throughout the rat embryo. Microvessels within the rat CNS express NG2 on endothelial cells, and outside the CNS, NG2 is

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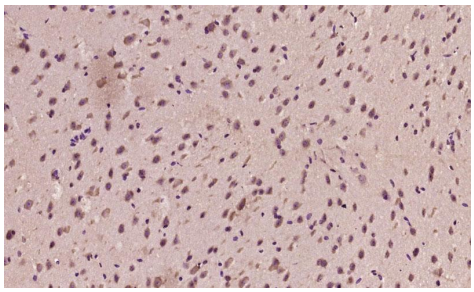
	present on smooth muscle cells. NG2 is a novel marker for epidermal stem cells that contributes to their patterned distribution by promoting stem cell clustering. **Function:** Proteoglycan playing a role in cell proliferation and migration which stimulates endothelial cells motility during microvascular 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. **Subunit:** Interacts with the first PDZ domain of MPDZ. Interacts with PRKCA. Binds TNC, laminin-1, COL5A1 and COL6A2. Interacts with PLG and angiostatin. Binds FGF2 and PDGFA. Interacts with GRIP1, GRIP2 and GRIA2. Forms a ternary complex with GRIP1 and GRIA2 (By similarity). Interacts with LGALS3 and the integrin composed of ITGB1 and ITGA3. Interacts with ITGA4 through its chondroitin sulfate glycosaminoglycan. Interacts with BCAR1, CDC42 and ACK1. Interacts with MMP16. **Subcellular Location:** 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. **Tissue Specificity:** Detected only in malignant melanoma cells. **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 (By similarity). **Similarity:** Contains 15 CSPG (NG2) repeats. Contains 2 laminin G-like domains.

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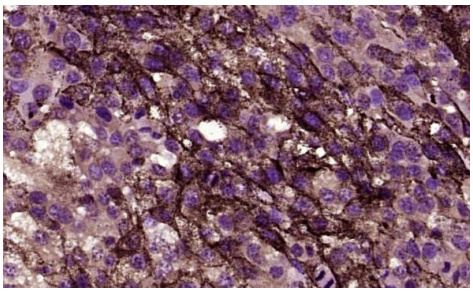
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	Database links: **Entrez Gene:** 1464 Human **Entrez Gene:** 121021 Mouse Omim: 601172 Human **SwissProt:** Q6UVK1 Human **SwissProt:** Q8VHY0 Mouse **Unigene:** 513044 Human **Unigene:** 41329 Mouse

[VALIDATION IMAGES]



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (NG2) Polyclonal Antibody, Unconjugated (SL23787R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Paraformaldehyde-fixed, paraffin embedded (Human melanoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (NG2) Polyclonal Antibody, Unconjugated (SL23787R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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