

## Technical Data Sheet

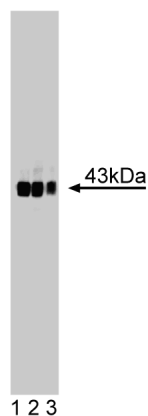
**Purified Mouse Anti-GAP-43/Neuromodulin****Product Information**

<b>Material Number:</b>	612262
<b>Size:</b>	50 µg
<b>Concentration:</b>	250 µg/ml
<b>Clone:</b>	31/GAP-43/Neuromodulin
<b>Immunogen:</b>	Human GAP-43/Neuromodulin aa. 1-144
<b>Isotype:</b>	Mouse IgG1
<b>Reactivity:</b>	QC Testing: Rat Tested in Development: Human, Mouse
<b>Target MW:</b>	43 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

**Description**

Neuromodulin (GAP-43, B-50, F-1) is a neural-specific protein that represents about one percent of the total membrane protein in growth cones from developing rat brain. Growth cones are located at the distal tip of neuronal processes and are critical for transduction of extracellular signals into directed growth. Neuromodulin is attached to the membranes of the neuronal growth cones during development. In the adult, it is attached to the presynaptic membranes in discrete subsets of synapses. Neuromodulin can bind to calmodulin, as well as inhibit phosphatidylinositol phosphate kinase (PIP kinase) activity. It is also a prominent substrate of Protein Kinase C (PKC) and may mediate some of the effects of PKC on growth cone function. As may be expected, expression and phosphorylation of neuromodulin are closely associated with axonal outgrowth and repair. Phosphorylation of neuromodulin by PKC has been correlated with the persistence of long term potentiation and the translocation of PKC to synaptosomal membranes. This PKC-mediated phosphorylation does not appear to require neuromodulin membrane association. It has also been demonstrated that the GTP-binding protein, G[o], is a main component of growth cone membranes. The binding of GTP--S to G[o] is stimulated by neuromodulin and this activity resides within the amino-terminal region of the protein. This region of neuromodulin shares sequence homology with the cytoplasmic tails of G-linked transmembrane receptors, suggesting the presence of one binding site on G[o] for both neuromodulin and transmembrane receptors.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



**Western blot analysis of GAP-43/Neuromodulin on rat cerebrium lysate.** Lane 1: 1:10000, lane 2: 1:20000, lane 3: 1:40000 dilution of anti-GAP-43/Neuromodulin.

**Preparation and Storage**

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20° C.

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## Application Notes

### Application

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

## Suggested Companion Products

Catalog Number	Name	Size	Clone
611463	Rat Cerebrum Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

## References

Chapman ER, Estep RP, Storm DR. Palmitoylation of neuromodulin (GAP-43) is not required for phosphorylation by protein kinase C. *J Biol Chem.* 1992; 267(35):25233-25238.(Biology)  
Cimler BM, Andreasen TJ, Andreasen KI, Storm DR. P-57 is a neural specific calmodulin-binding protein. *J Biol Chem.* 1985; 260(19):10784-10788.(Biology)  
Meiri KF, Bickerstaff LE, Schwob JE. Monoclonal antibodies show that kinase C phosphorylation of GAP-43 during axonogenesis is both spatially and temporally restricted in vivo. *J Cell Biol.* 1991; 112(5):991-1005.(Biology)  
Strittmatter SM, Valenzuela D, Kennedy TE, Neer EJ, Fishman MC. G0 is a major growth cone protein subject to regulation by GAP-43. *Nature.* 1990; 344(6269):836-841.(Biology)

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