

SM3068P**Monoclonal Antibody to Neurofilament M (160 kD) - Purified**

Alternate names:	(Neuronal Marker), NEF3, NEFM, NF-M, Neurofilament 3, Neurofilament medium polypeptide
Quantity:	0.1 mg
Concentration:	1.0 mg/ml
Background:	Neurofilaments (NFs) are a type of intermediate filament (IF) expressed almost exclusively in neuronal cells, and in those cells most prominently in large axons, the longest cell protrusions known in vertebrates. NFs in most vertebrates are composed of three different polypeptide chains with different molecular weights (NF-H - heavy chain, NF-M - medium chain and NF-L - light chain). The three NF subunits share sequence and structural similarity in a coiled-coil core domain, but differ in the length and sequence of their N-termini and more dramatically of their C-termini which in the case of NF-M and NF-H form the flexible extensions that link NFs to each other and to other elements in the cytoplasm.
Uniprot ID:	P08552
NCBI:	9823
Host / Isotype:	Mouse / IgG2a
Recommended Isotype Controls:	AM03096PU-N
Clone:	NF-09
Immunogen:	Pellet of Porcine brain cold stable proteins after depolymerization of microtubules
Format:	State: Liquid purified Ig fraction (> 95% pure by SDS-PAGE) Purification: Affinity Chromatography on Protein A Buffer System: Phosphate buffered saline (PBS), pH~7.4 with 15 mM Sodium Azide as preservative.
Applications:	Western blot. Immunocytochemistry. Immunohistochemistry on Paraffin Sections. Positive Tissue: Neuro2A murine cell line. Note: Carnoys fixative 2 x 3 min, blocking 1% Glycine + 0.2% Gelatin 10 min. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	The antibody reacts with both phosphorylated and non-phosphorylated form of medium neurofilament protein (160 kDa) of various species. Antibodies to the various neurofilament subunits are very useful cell type markers since the proteins are among the most abundant of the nervous system, are expressed only in neurons and are biochemically very stable. Species: Mammalian. Other species not tested.

- Storage:** Store undiluted at 2-8°C.
DO NOT FREEZE!
Shelf life: one year from despatch.
- Product Citations:** **Originator or purchased from resellers:**
1. Draberova E, Sulimenko V, Kukharsky V, Draber P.: Monoclonal antibody NF-09 specific for neurofilament protein NF-M. *Folia Biol (Praha)*. 1999;45(4):163-5.
- General Readings:**
1. Ohara O, Gahara Y, Miyake T, Teraoka H, Kitamura T.: Neurofilament deficiency in quail caused by nonsense mutation in neurofilament-L gene. *J Cell Biol.* 1993 Apr;121(2):387-95.
 2. Rao MV, Campbell J, Yuan A, Kumar A, Gotow T, Uchiyama Y, Nixon RA: The neurofilament middle molecular mass subunit carboxyl-terminal tail domains is essential for the radial growth and cytoskeletal architecture of axons but not for regulating neurofilament transport rate. *J Cell Biol.* 2003 Dec 8;163(5):1021-31.
 3. Deng Y, Li B, Liu F, Iqbal K, Grundke-Iqbal I, Brandt R, Gong CX: Regulation between O-GlcNAcylation and phosphorylation of neurofilament-M and their dysregulation in Alzheimer disease. *FASEB J.* 2008 Jan;22(1):138-45.
 3. Dráberová E, Sulimenko V, Vinopal S, Sulimenko T, Sládková V, D'Agostino L, Sobol M, Hozák P, Křen L, Katsetos CD, Dráber P: Differential expression of human β -tubulin isotypes during neuronal development and oxidative stress points to a β -tubulin-2 prosurvival function. *FASEB J.* 2017 May;31(5):1828-1846. PubMed PMID: 28119396.

Pictures:

Figure 2. Immunofluorescence staining of neurofilament medium protein in murine Neuro2A cells by antibody NF-09 conjugated with Dyomics 547 (red). DNA stained by Hoechst (blue).

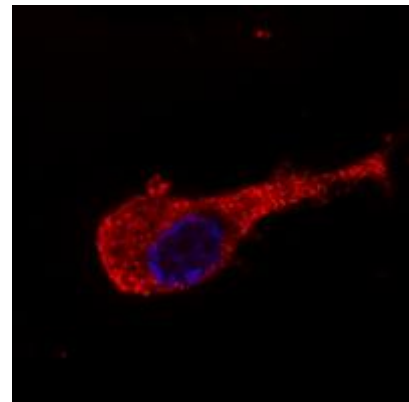


Figure 1. Western blotting analysis of neurofilament medium protein in porcine brain lysate (reducing conditions) by mouse monoclonal NF-09.

