NEUROMICS

TuJ-1 (neuron-specific class III β -tubulin) Datasheet

Catalog Number:	MO15013	**Host:**	Mouse
Product Type:	Monoclonal Mouse IgG2A Clone #TuJ1. Protein A or G purified from hybridoma culture supernatant.	**Species Reactivity:**	Human, rat
Immunogen:	Microtubules derived from rat brain	**Format:**	Liquid 1mg/ml 0.2 µm filtered solution in phosphate-buffered saline (PBS) with 5% trehalose and 7.5% Mannitol

Applications:

Immunocytochemistry: 5-10 µg/mL

Western blot: 1 µg/mL

Storage:

Antibody can be aliquotted and stored frozen at -20° C to -70° C in a manual defrost freezer for six months without detectable loss of activity. The antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. *Avoid repeated freeze-thaw cycles.*

A. Young, D.W. Machacek, S.K. Dhara, P.R. MacLeish, M. Benveniste, M.C. Dodla, C.D. Sturkie and S.L. Stice. Ion channels and ionotrophic receptors in a human embryonic stem cell derived neural progenitors. doi:10.1016/j.neuroscience.2011.04.039.

C. Bettina Portmann-Lanz PhD, Andreina Schoeberlein PhD, Reto Portmann PhD, Stefan Mohr MD, Pierre Rollini PhD, Ruth Sager and Daniel V. Surbek MD. Turning placenta into brain: placental mesenchymal stem cells differentiate into neurons and oligodendrocytes. doi:10.1016/j.ajog.2009.10.893

Stephen I. Lentz, James L. Edwards, Carey Backus, Lisa L. McLean, Kristine M. Haines, and Eva L. Feldman. Mitochondrial DNA (mtDNA) Biogenesis: Visualization and Duel Incorporation of BrdU and EdU Into Newly Synthesized mtDNA In Vitro. J. Histochem. Cytochem., Nov 2009; doi:10.1369/jhc.2009.954701.

Alonso M. Higuero, Lucía Sánchez-Ruiloba1, Laura E. Doglio, Francisco Portillo1, José AbadRodríguez, Carlos G. Dotti and Teresa Iglesias. Kidins220/ARMS modulates the activity of microtubule-regulating proteins and controls neuronal polarity and development. JBC Papers in Press. Published on November 10, 2009 as Manuscript M109.024703.

Application Notes

Specificity

Tuj-1 (βIII Tubulin), also known as tubulin β4, is regarded as a neuron specific marker. The expression of βIII Tubulin has been suggested to be one of the earliest markers to signal commitment in primitive neuroepithelium.

Immunocytochemistry

This antibody can be used with the appropriate secondary reagents at the concentration of 5 - 10 µg/mL in fixed cells. Cells were fixed with 4% paraformaldehyde and 0.15% picric acid in PBS at room temperature for 20 min., followed by blocking and permiablized with PBS containing 10% normal donkey serum, 0.1% Triton X-100 and 1% BSA at room temperature for 45 min. After blocking, cells were incubated with diluted primary antibody overnight at 4° C and followed by incubation for 1 hour with appropriate secondary antibody at room temperature. Between each step, cells were washed with PBS and 0.1% BSA.

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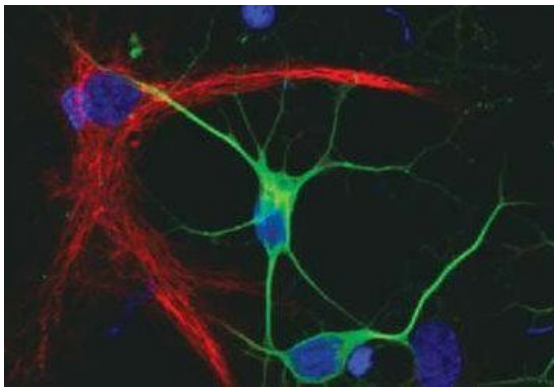
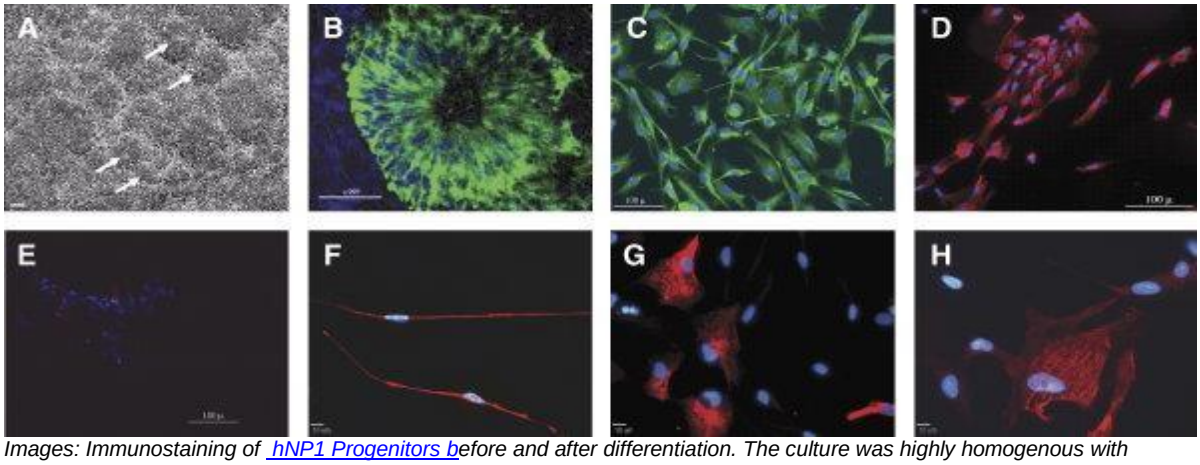
Image: Rat cortical stem cells were differentiated for 7 days and stained with GFAP (red) and Tuj-1 (green). The nuclei were stained with DAPI (blue)





Images: Immunostaining of hNP1 Progenitors before and after differentiation. The culture was highly homogenous with neural rosettes. (A) Neural rosettes (white arrows, bright field) from WA09 cells. A similar result also obtained with BG02 cell line. (B) Shown here, a neural rosette stained with Nestin (NES) (green) antibody. Propagated Neural progenitors showed expression of marker genes, NES (C) and Musashi 1 (D) but not SOX2 (E). Further differentiation produced neurons (Tuj1) (F), astrocytes (GFAP) (G) and oligodendrocytes (myelin basic protein)(H) (lower panel). DAPI (blue) was used for staining the nuclei (scale bar for (A) through (E) is 100 mm and for the remaining figures 10 mm). Differentiation (2007) DOI: 10.1111/j.1432-0436.2007.00256.x**...Dilutions: NES (1:100, Neuromics, Edina, MN), MSI1 (1:100, Neuromics), Tuj1 (1:500, Neuromics)...**

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