Get Focused

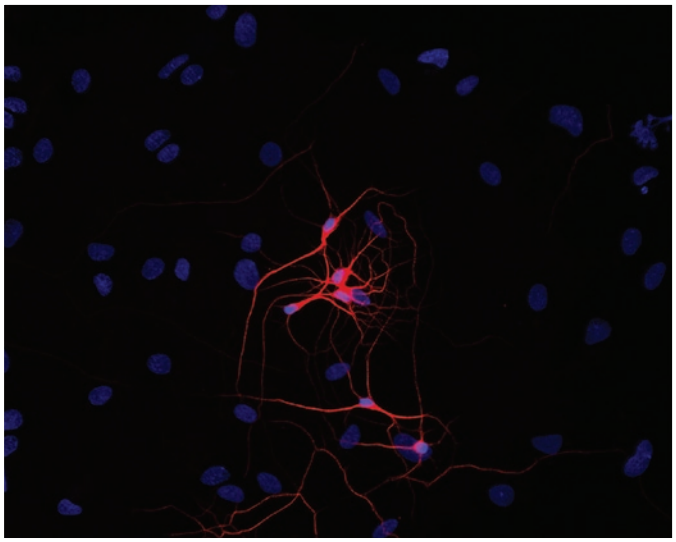
Issue 8

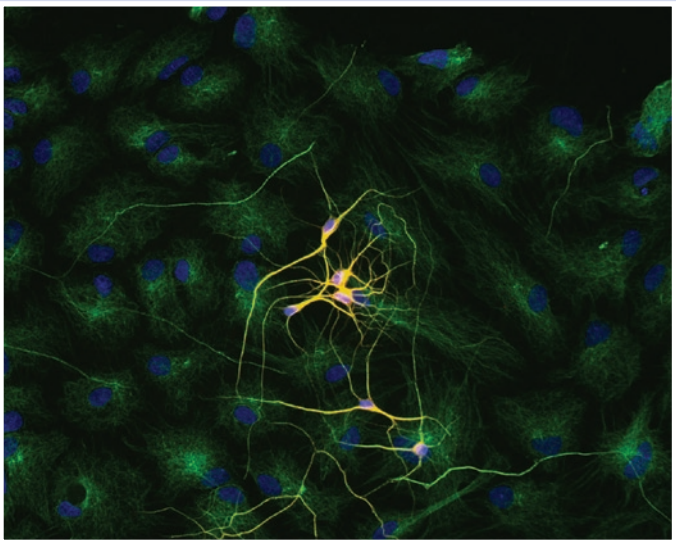
EXBIO

Antibodies

NEUROBIOLOGY

Neurobiology





Immunofluorescence staining of P-19 mouse embryonal carcinoma cell line stimulated to neuronal differentiation by retinoic acid.
A *- Microtubules decorated with neuron-specific anti-βIII-tubulin (**TU-20**; red). Nuclei were stained with DAPI (blue).*
B *- Merged image of co-staining with anti-β-tubulin (TU-06; green; cat. no. 11-251-C100).*
Superposition of red and green colours provided yellow staining.

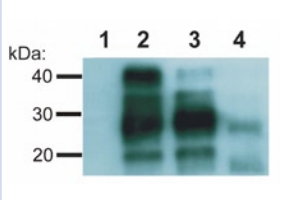
Antibodies to neurobiology antigens

(All also available in 25 µg or 25 test quantities)

Prion Protein / CD230

Prion protein (PrP) is a ubiquitously expressed GPI-anchored cell surface glycoprotein associating with lipid raft components and functioning as a signaling molecule. It plays a role in apoptosis in a cell context-dependent manner, is involved in proliferation of epithelial cells and in distribution of junction-associated proteins in human enterocytes. Conversion of this normal cellular prion protein (PrPc) into an abnormal conformer (PrPSc) is the crucial step associated with triggering the pathogenesis of the prion neurodegenerative disorders, such as the Creutzfeld-Jakob disease (CJD). Whereas PrPc is rich in alpha-helices, the PrPSc form has higher content of beta-sheets and is resistent to proteinase K.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
EM-20	IgG2a	Hu	WB	11-593-C100	Purified	0.1 mg

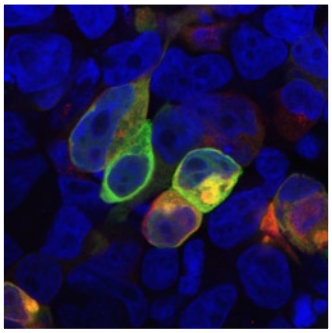


*Western Blotting analysis of Creutzfeld-Jakob disease (CJD) negative (lane 1, 2) and CJD positive (lane 3, 4) human brain material using anti-PrP antibody (clone **EM-20**). CJD positive patient has proteinase K resistent prion protein.*
Lane 1, 4: Samples with proteinase K treatment
Lane 2, 3: Samples without proteinase K treatment

GCPII / PSMA

Glutamate carboxypeptidase II (GCPII), also known as N-acetyl-α-linked acidic dipeptidase I (NAALADase I), folate hydrolase (FOLH1), and prostate-specific membrane antigen (PSMA), is a transmembrane glycoprotein expressed in various tissues. In nervous system GCPII contributes to pathological conditions regarding e.g. Alzheimer´s disease, Huntington´s disease, epilepsy, schizophrenia, stroke or neuropathic pain and appears to be an interesting therapeutic target.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
GCP-04	IgG1	Hu, Rt, Por	WB, IHC, ICC	11-532-C100	Purified	0.1 mg
GCP-05	IgG1	Hu	FC, IP, ICC	11-539-C100	Purified	0.1 mg
				A4-539-C100	Alexa Fluor® 488	0.1 mg
				1P-539-C100	PE	0.1 mg
				A7-539-C100	Alexa Fluor® 700	0.1 mg



*Immunofluorescence staining of HEK-293 cells co-transfected with PRR7 / TRAP3 (red) and GFP-PSD-95 (green). PRR7 / TRAP3 detected by monoclonal antibody **TRAP3/10**. DNA visualized by DAPI (blue).*

PRR7 / TRAP3

Proline-Rich 7 is a transmembrane adaptor protein, which is a part of the complex postsynaptic density fraction in neurons and associates with PSD-95, NMDA receptor and probably other proteins.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
TRAP3/10	IgG2a	Hu, Ms, Rt	WB, ICC	11-617-C100	Purified	0.1 mg

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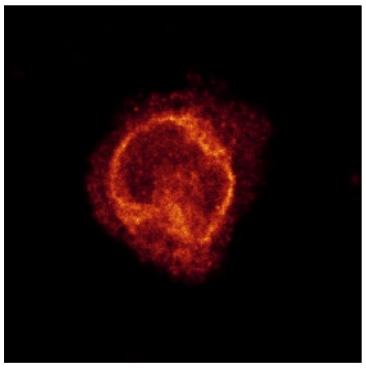
GABA B Receptor

GABA B receptor has important functions in brain by inhibition of adenylyl cyclase and modulation of G-protein-gated Ca^{2+} and K^{+} channels. GABA B receptor is comprised of two subunits, GB1 and GB2. The GB1 subunit plays a critical role in ligand binding, whereas the GB2 subunit contains the determinants required for G-protein signaling. Expression of two N-terminal splice variants of GB1 subunit (GB1a and GB1b) in the central nervous system changes during the ontogenesis and differs between various regions of the brain.

Description	Reactivity	Application	Catalogue No.	Format	Quantity
Polyclonal anti-GB1	Ms, Rt	WB, ICC	11-548-C100	Purified	0.1 mg
Polyclonal anti GB1a	Ms, Rt	WB, ICC	11-549-C100	Purified	0.1 mg
Polyclonal anti-GB1b	Ms, Rt	WB, ICC	11-550-C100	Purified	0.1 mg
Polyclonal anti-GB2	Ms, Rt	WB, ICC	11-551-C100	Purified	0.1 mg



*Immunostaining of GABA B receptor GB1 subunit by **rabbit polyclonal** and secondary anti-rabbit-CY3 conjugate after permeabilization of GB1-transfected HEK293 cells.*

Metabotropic Glutamate Receptor

The metabotropic glutamate receptor mGluR1 is coupled to the inositol phosphate/Ca^{2+} signal transduction pathway. The highest level of mGluR1 mRNA expression is found in the cerebellar Purkinje cells. Three splicing variants have been described for mGluR1: mGluR1a, mGluR1b, and mGluR1c. The mGluR1a and mGluR1b functionally differ e.g. in their internalisation responses or in ability to activate the Gs protein pathway, as the mGluR1b lacks a part of C terminus.

Description	Reactivity	Application	Catalogue No.	Format	Quantity
Polyclonal anti-mGluR1	Ms	WB	11-612-C100	Purified	0.1 mg
Polyclonal anti-mGluR1a	Ms	WB, ICC	11-610-C100	Purified	0.1 mg
Polyclonal anti-mGluR1b	Ms	WB	11-611-C100	Purified	0.1 mg

CRIP1a

The CB1 cannabinoid receptor interacting protein 1a (CRIP1a) binds to the distal C-terminal tail of CB1. In superior cervical ganglion neurons coinjected with CB1 and CRIP1a, CRIP1a suppresses CB1-mediated tonic inhibition of voltage-gated calcium channels.

Description	Reactivity	Application	Catalogue No.	Format	Quantity
Polyclonal anti-CRIP1a	Ms	WB	11-613-C100	Purified	0.1 mg

Neurofilament Proteins

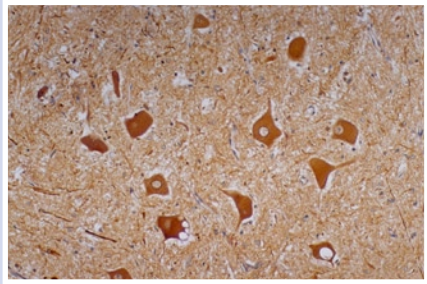
Neurofilaments, the type of intermediate filaments expressed almost exclusively in neuronal cells, are abundant in large axons. In most vertebrates they are composed of three different polypeptide chains – neurofilament heavy, medium and light protein, which are for their high stability very useful neuronal markers.

Neurofilament Heavy Protein

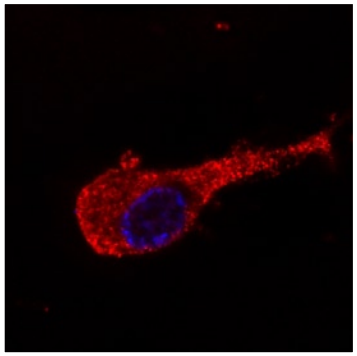
Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
NF-01	IgG1	Mammalian	WB, IHC, ICC	11-256-C100	Purified	0.1 mg
NF-05	IgG1	Hu, Rt, Por	WB, IHC, ELISA	11-440-C100	Purified	0.1 mg

Neurofilament Medium Protein

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
NF-09	IgG2a	Mammalian	WB, IHC, ICC	11-294-C100 A4-294-C100 1C-294-C100	Purified Alexa Fluor® 488 Dyomics 547	0.1 mg 0.1 mg 0.1 mg



*Immunohistochemistry staining of human cerebellum (paraffin-embedded sections) with anti-Neurofilament heavy protein (**NF-01**).*



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

GFAP

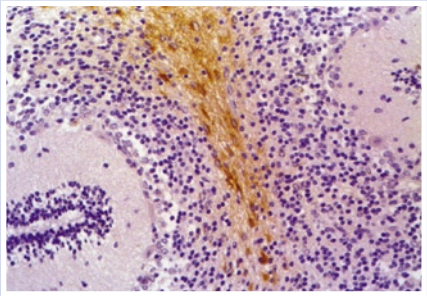
Glial Fibrillary Acidic Protein is the principal marker of astroglial cells in the central nervous system, which is specifically expressed in satellite cells in peripheral ganglia and in non myelinating Schwann cells in peripheral nerves.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
GF-01	IgG2b	Hu, Por, Fel	IHC, IP, WB, ICC	11-255-C100 A4-255-C100	Purified Alexa Fluor® 488	0.1 mg 0.1 mg
GF-02	IgM	Hu, Por	WB, IHC, ICC	11-441-C100	Purified	0.1 mg
GA-5	IgG1	Hu, Rt, Por	IP, WB, IHC, ICC	11-583-C100	Purified	0.1 mg

MAP2ab

Microtubule Associated Proteins 2a and 2b stabilize microtubules mainly in dendrites. They participate in determining the structure of different parts of vertebrate nerve cells.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
MT-01	IgG1	Hu, Ms, Por, Bov, Fel	IP, WB, ICC	11-253-C100 11-253-M001 A4-253-C100 1C-253-C100	Purified Purified Alexa Fluor® 488 Dyomics 547	0.1 mg 1.0 mg 0.1 mg 0.1 mg
MT-07	IgG1	Hu, Ms, Por	IP, WB, IHC, ICC, ELISA	11-472-C100	Purified	0.1 mg
MT-08	IgG1	Hu, Ms, Por	IP, WB, IHC, ICC, ELISA	11-473-C100	Purified	0.1 mg



*Immunohistochemistry staining of human cerebellum (paraffin-embedded sections) with anti-Glial Fibrillary Acidic Protein (**GF-01**).*

βIII-Tubulin

The class III isoform of β-tubulin is present dominantly in cells of neuronal origin and it is one of the earliest markers of neuronal differentiation.

Clone	Isotype	Reactivity	Application	Catalogue No.	Format	Quantity
TU-20	IgG1	Broad	FC, WB, IHC, ICC	11-264-C100 11-264-M001 1F-264-C100 A4-264-C100 1C-264-C100	Purified Purified FITC Alexa Fluor® 488 Dyomics 547	0.1 mg 1.0 mg 0.1 mg 0.1 mg 0.1 mg

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