SYSY Antibodies

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Antibody Sampler Kit for Glia Cells (cat. no. 803-ASK)

GFAP

Cat.No. 173 011; Monoclonal mouse antibody, 20 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	20 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 20 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) (see remarks) **IP**: yes **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 1000 **IHC-P**: 1 : 2000 up to 1 : 4000 **Clarity**: external datavideo (see remarks) **ELISA**: yes
Clone	134B1
Subtype	IgG2a (κ light chain)
Immunogen	full-length recombinant human GFAP (UniProt Id: P14136)
Epitop	AA 391 to 405 from human GFAP (UniProt Id: P14136)
Reactivity	Reacts with: human (P14136), rat (P47819), mouse (P03995), cow. No signal: zebrafish. Other species not tested yet.
Specificity	Specific for GFAP isoform 1 (alpha) K.O. validated
Matching control	173-0P
Remarks	**WB**: The monoclonal antibodies are less sensitive compared to the rabbit polyclonal polyclonal (cat. no. 173 002). **Clarity**: This antibody has been successfully used for CLARITY application in human brain (Woelfle et al., 2023; PMID: 37221592). **ELISA**: Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector antibodies.

Background

Glial fibrillary acidic protein **GFAP** is a unique member of the intermediate filament protein family. This group comprises cell type-specific filamentous proteins with similar structure and function as scaffold for cytoskeleton assembly and maintenance.
Frequently, neural stem cells also express GFAP. In addition many types of brain tumors, probably derived from astrocytic cells, heavily express GFAP. This protein is also found in the lens epithelium, Kupffer cells of the liver, in some cells in salivary tumors and others.
Point-mutations in the GFAP gene have been correlated to Alexander disease, a fatal leukoencephalopathy that leads to the dysmyelination or demyelination of the central nervous system.

MAP2

Cat.No. 188 011; Monoclonal mouse antibody, 20 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	20 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 20 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: 1 : 200 up to 1 : 1000 **IHC**: 1 : 200 up to 1 : 500 **IHC-P**: 1 : 500 up to 1 : 2000 **DNA-PAINT**: external data (see remarks)
Clone	198A5
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to residues near the amino terminus of human Map2 (UniProt Id: P11137-4)
Epitop	AA 82 to 96 from human MAP2-4 hu (UniProt Id: P11137-4)
Reactivity	Reacts with: human (P11137), rat (P15146), mouse (P20357). No signal: zebrafish. Other species not tested yet.
Specificity	Specific for MAP2; recognizes all four isoforms.
Matching control	188-0P
Remarks	**WB**: Due to the large size of this protein, we recommend NuPAGE 3-8% Tris-Acetate gels for SDS-PAGE. **DNA-PAINT**: This antibody has been successfully used for DNA-PAINT application (see Unterauer et al., 2024; PMID: 38552614).

Background

There are two major classes of heat stable **m**icrotubule **a**ssociated **p**roteins (MAPs): **MAP2**, and tau. Both protein classes are involved in the regulation of microtubule polymerization in cells.

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IBA1

Cat.No. 234 308; Recombinant Guinea pig antibody, 30 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	30 µg purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 30 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP-staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P**: 1 : 1000
Clone	Gp311H9
Subtype	IgG2 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of rat IBA1 (UniProt Id: P55009)
Reactivity	Reacts with: mouse (Q9EQW9), rat (P55009), human (P55008), monkey. Other species not tested yet.
Matching control	234-0P
Remarks	This antibody is a chimeric antibody based on the monoclonal mouse antibody clone 311H9. The constant regions of the heavy and light chains have been replaced by Guinea pig specific sequences. Therefore, the antibody can be used with standard anti-Guinea pig secondary reagents. The antibody has been expressed in mammalian cells.

Background

Ionized calcium-**b**inding adaptor **m**olecule **1** (**IBA1**) or **a**llograft **i**nflammatory **f**actor**1** (**AIF-1**) is an EF hand calcium binding protein which is expressed by cells of the monocyte/macrophage lineage and by germ cells in the testis (1). In mice, IBA1/AIF-1 can be regarded a “pan-macrophage marker” because, except for alveolar macrophages, all subpopulations of macrophages express IBA1/AIF-1 (1). In human gliomas IBA1 defines a distinct subset of tumor-associated activated macrophages/microglial cells (2).
Microglia represent the resident macrophages in the nervous system and are the smallest of the glial cells with cell bodies of only 2-5 µm in diameter. In the CNS IBA1 upregulation is associated with neuroinflammatory response (3).

S100B

Cat.No. 287 004; Polyclonal Guinea pig antibody, 30 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	30 µl antiserum, lyophilized. For **reconstitution** add 30 µl H_2O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: not recommended **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 200 up to 1 : 500 **IHC-P**: 1 : 200 **IHC-G**: 1 : 500 **Clarity**: external data (see remarks)
Immunogen	Recombinant protein corresponding to AA 1 to 92 from rat S100B (UniProt Id: P04631)
Reactivity	Reacts with: rat (P04631), mouse (P50114), human (P04271). Other species not tested yet.
Specificity	K.D. validated PubMed: 39908332
Remarks	**IHC-G**: The following fixatives are possible: 3% glyoxal, 9% glyoxal **Clarity**: This antibody has been successfully used for CLARITY application in human brain (Woelfle et al., 2023; PMID: 37221592).

Background

The family of S100 proteins comprises more than 20 members. These proteins are EF-hand Ca^{2+}-binding proteins, and are widely distributed in mammalian tissue. Since these proteins are soluble in 100 % saturated ammonium-sulfate solution they have been named S100.
S100B is a frequently used marker protein for mature astrocytes whereas GFAP is also expressed in germinal zone cells that maintained their immature developmental stage.

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SOX2

Cat.No. 347 003; Polyclonal rabbit antibody, 10 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	10 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 10 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: not tested yet (AP staining) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 5000 **IHC-P**: 1 : 200
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse SOX2 (UniProt Id: P48432)
Reactivity	Reacts with: rat (D4A543), mouse (P48432), human (P48431). Other species not tested yet.

Background

Sex determining region of Y chromosome (**S**ry)-related high mobility group b**ox1-3** or **SOX 1-3** proteins belong to the earliest transcription factors expressed in the developing CNS
SOX1, SOX2 and SOX3 constitute the B1-subgroup of the Sox gene family 12. They are expressed by most progenitor cells of the developing CNS and are generally downregulated by neural cells when they exit the cell cycle and differentiate.

CNP1

Cat.No. 355 002; Polyclonal rabbit antibody, 40 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	40 µl antiserum, lyophilized. For **reconstitution** add 40 µl H_2O, then aliquot and store at -20°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P**: 1 : 500
Immunogen	Recombinant protein corresponding to AA 1 to 420 from mouse CNP1 (UniProt Id: P16330)
Reactivity	Reacts with: rat (P13233), mouse (P16330). Other species not tested yet.
Specificity	K.O. validated

Background

The 2', 3'-cyclic nucleotide 3'-phosphodiesterase **CNP 1**, also referred to as CNPase and CNP, is one of the most abundant membrane-associated enzymes in the myelin sheath of the vertebrate nervous system.
It is assumed that CNP 1 participates in RNA metabolism of myelinating oligodendrocytes.

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Antibody Sampler Kit for Glia Cells (cat. no. 803-ASK)

β-Actin

Cat.No. 251 011; Monoclonal mouse antibody, 20 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	20 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 20 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 up to 1 : 5000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: not tested yet **IHC-P**: not tested yet
Clone	130B4
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 2 to 16 from mouse β-Actin (UniProt Id: P60710)
Reactivity	Reacts with: rat (P60711), mouse (P60710), zebrafish, human (P60709). Other species not tested yet.
Specificity	May cross-react to α- and γ-actin due to sequence homology.
Remarks	**ICC**: The following fixatives are possible: 4% formaldehyde/PFA, methanol

Background

The two major cytoskeletal proteins involved in cell motility are myosin and **actin**. Monomeric actin is a globular protein that is expressed in all eukaryotic cells. Actin is the major subunit of microfilaments, a major component of the cytoskeleton, and of thin filaments, part of the contractile apparatus in muscle cells.
Actin is involved in many cellular processes including cell motility, maintenance of cell shape, and organelle trafficking.
Three main groups of actin have been identified. α-actins are found in muscle tissues whereas β- and γ-actins co-exist in most cell types as components of the cytoskeleton.