For Research Use Only

CoraLite®594-conjugated GFAP Monoclonal antibody

Catalog Number:CL594-60190 4 Publications

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Basic Information

Catalog Number:
CL594-60190

Concentration:
1000 ug/ml

Source:
Mouse

Isotype:
IgG2a

Immunogen Catalog Number:
AG10452

GenBank Accession Number:
BC013596

GeneID (NCBI):
2670

UNIPROT ID:
P14136

Full Name:
glial fibrillary acidic protein

Calculated MW:
432 aa, 50 kDa

Purification Method:
Protein A purification

CloneNo.:
4B2E10

Recommended Dilutions:
IF-P: 1:50-1:500

Excitation/Emission maxima wavelengths:
588 nm / 604 nm

Applications

Tested Applications:
IF-P

Cited Applications:
IF

Species Specificity:
human, mouse, rat, pig

Cited Species:
mouse

Positive Controls:

IF-P : rat brain tissue, rat cerebellum tissue

Background Information

GFAP Function GFAP (Glial fibrillary acidic protein) is a type III intermediate filament (IF) protein specific to the central nervous system (CNS). GFAP is one of the main components of the intermediate filament network in astrocytes and has been proposed as playing a role in cell migration, cell motility, maintaining mechanical strength, and in mitosis. Tissue specificity GFAP is expressed in central nervous system cells, predominantly in astrocytes. GFAP is commonly used as an astrocyte marker. However, GFAP is also present in peripheral glia and in non-CNS cells, including fibroblasts, chondrocytes, lymphocytes, and liver stellate cells (PMID: 21219963). Involvement in disease Mutations in GFAP lead to Alexander disease (OMIM: 203450), an autosomal dominant CNS disorder. The mutations present in affected individuals are thought to be gain-of-function. Upregulation of GFAP is a hallmark of reactive astrocytes, in which GFAP is present in hypertrophic cellular processes. Reactive astrogliosis is present in many neurological disorders, such as stroke, various neurodegenerative diseases (including Alzheimer's and Parkinson's disease), and neurotrauma. Isoforms Astrocytes express 10 different isoforms of GFAP that differ in the rod and tail domains (PMID: 25726916), which means that they differ in molecular size. Isoform expression varies during the development and across different subtypes of astrocytes. Not all isoforms are upregulated in reactive astrocytes. Post-translational modifications Intermediate filament proteins are regulated by phosphorylation. Six phosphorylation sites have been identified in GFAP protein, at least some of which are reported to control filament assembly (PMID: 21219963). Cellular localization GFAP localizes to intermediate filaments and stains well in astrocyte cellular processes. The antibody is conjugated with CL594, Ex/Em 593 nm/614 nm.

Notable Publications

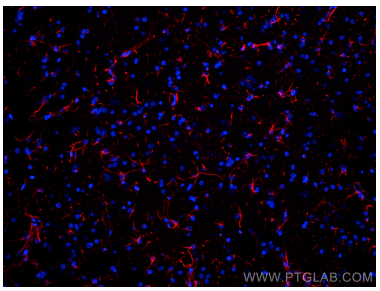
Author	Pubmed ID	Journal	Application
Xuhui Ge	40328251	Neuron	IF
Junjun Xiong	40016338	Cell Death Differ	IF
Li-Quan Huang	39908779	Neoplasia	IF

Storage

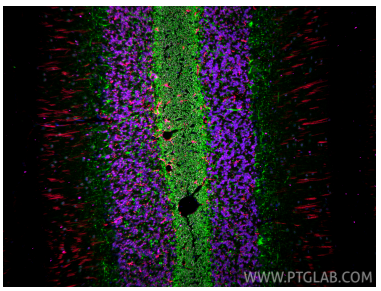
Storage:
Store at -20°C. Avoid exposure to light. Stable for one year after shipment.
Storage Buffer:
PBS with 50% glycerol, 0.05% Proclin300, 0.5% BSA, pH7.3
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

Selected Validation Data



Immunofluorescent analysis of (4% PFA) fixed rat brain tissue using CoraLite®594 GFAP antibody (CL594-60190, Clone: 4B2E10) at dilution of 1:200.



Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded rat cerebellum tissue using CoraLite®594 GFAP antibody (CL594-60190, Clone: 4B2E10) at dilution of 1:200, NeuN antibody (66836-1-Ig, Clone: 3A4C1, Magenta), NF-H/NF200 antibody (18934-1-AP, green). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).