

GFAP Monoclonal Antibody (131-17719),  
Alexa Fluor™ 488

Catalog NumberA-21294

Product data sheet

Details		Species Reactivity	
Size	50 µL	Species reactivity	Human
Host/Isotope	Mouse / IgG1, kappa	Published species	Mouse, Not Applicable
Class	Monoclonal	Tested Applications	
Type	Antibody	Immunocytochemistry (ICC/IF)	Dilution * 1-10 µg/mL
Clone	131-17719	Published Applications	
Immunogen	protein glial fibrillary acidic protein	Immunohistochemistry (IHC)	See 2 publications below
Conjugate	Alexa Fluor™ 488	Immunocytochemistry (ICC/IF)	See 1 publications below
Form	Liquid	Miscellaneous PubMed (Misc)	See 4 publications below
Concentration	1 mg/mL	Immunohistochemistry (Frozen) (IHC (F))	See 4 publications below
Purification	purified	Flow Cytometry (Flow)	See 1 publications below
Storage buffer	PBS, pH 7.2, with 0.1% BSA	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Contains	5mM sodium azide		
Storage Conditions	4° C, store in dark		

Background/Target Information

GFAP (Glial fibrillary acidic protein) is a member of the class III intermediate filament protein family. GFAP is heavily and specifically expressed in astrocytes and certain astroglia of the central nervous system, in satellite cells of peripheral ganglia, and in non-myelinating Schwann cells of peripheral nerves. In addition, neural stem cells strongly express GFAP. Antibodies to GFAP are very useful as markers of astrocytic cells. In addition, many types of brain tumor, presumably derived from astrocytic cells, heavily express GFAP. GFAP is also found in the lens epithelium, Kupffer cells of the liver, in some cells in salivary tumors and has been reported in erythrocytes. GFAP is used as a marker to distinguish astrocytes from other glial cells during development. Mutations in this gene cause Alexander disease, a rare disorder of astrocytes in the central nervous system. Alternative splicing of the GFAP gene results in multiple transcript variants encoding distinct isoforms.

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PubMed References For GFAP Monoclonal Antibody (131-17719), Alexa Fluor™ 488

2 Immunohistochemistry References

Species / Dilution	Summary
	A-21294 was used in Immunohistochemistry-immunofluorescence to support the consensus that future neuroprotective immunotherapies should aim to selectively neutralize detrimental immune signaling while sustaining pro-regenerative processes.
Mouse / 1:400	Biology ( 2022; 11: ) <b>"The Inflammatory Response after Moderate Contusion Spinal Cord Injury: A Time Study."</b> Author(s):Lund MC,Ellman DG,Nissen M,Nielsen PS,Nielsen PV,Jørgensen C,Andersen DC,Gao H,Brambilla R,Degn M, Clausen BH,Lambertsen KL PubMed Article URL: <a href="http://dx.doi.org/10.3390/biology11060939">http://dx.doi.org/10.3390/biology11060939</a>
Not Applicable / 1:1000	A21294 was used in immunohistochemistry to ask if Kir6.1 and Kir6.2 are altered in the hippocampus in a cell type-specific manner in Alzheimer's disease  Neuroscience ( 2016; 336: 81) <b>"Aberrant expression of the pore-forming K<sub>ATP</sub> channel subunit Kir6.2 in hippocampal reactive astrocytes in the 3xTg-AD mouse model and human Alzheimer's disease."</b> Author(s):Griffith CM,Xie MX,Qiu WY,Sharp AA,Ma C,Pan A,Yan XX,Patrylo PR PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neuroscience.2016.08.034">http://dx.doi.org/10.1016/j.neuroscience.2016.08.034</a>

1 Immunocytochemistry References

Species / Dilution	Summary
	A-21294 was used in immunocytochemistry to investigate the role of reactive oxygen species in neuron loss, aging, and Alzheimer's disease.
Mouse / 1:400	Neurobiology of aging ( 2014; 35: 179) <b>"Dual-energy precursor and nuclear erythroid-related factor 2 activator treatment additively improve redox glutathione levels and neuron survival in aging and Alzheimer mouse neurons upstream of reactive oxygen species."</b> Author(s):Ghosh D,LeVault KR,Brewer GJ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neurobiolaging.2013.06.023">http://dx.doi.org/10.1016/j.neurobiolaging.2013.06.023</a>

4 Miscellaneous PubMed References

Species / Dilution	Summary
	A-21294 was used in immunohistochemistry (frozen) to study the role of indoleamine 2,3 dioxygenase in brain tumors and the impact on Treg recruitment.
Mouse / Not Cited	Clinical cancer research : an official journal of the American Association for Cancer Research ( 2012; 18: 6110) <b>"IDO expression in brain tumors increases the recruitment of regulatory T cells and negatively impacts survival."</b> Author(s):Wainwright DA,Balyasnikova IV,Chang AL,Ahmed AU,Moon KS,Auffinger B,Tobias AL,Han Y,Lesniak MS PubMed Article URL: <a href="http://dx.doi.org/10.1158/1078-0432.CCR-12-2130">http://dx.doi.org/10.1158/1078-0432.CCR-12-2130</a>
	A-21294 was used in flow cytometry to investigate the expression and role of DAI in the inflammatory responses of resident CNS cells to neurotropic DNA viruses.
Mouse / Not Cited	Journal of neuroinflammation ( 2011; 8: ) <b>"A role for DNA-dependent activator of interferon regulatory factor in the recognition of herpes simplex virus type 1 by glial cells."</b> Author(s):Furr SR,Chauhan VS,Moerdyk-Schauwecker MJ,Marriott I PubMed Article URL: <a href="http://dx.doi.org/10.1186/1742-2094-8-99">http://dx.doi.org/10.1186/1742-2094-8-99</a>
	A-21294 was used in immunohistochemistry - frozen section to study Th17 cells in glia-derived tumors of the central nervous system
Mouse / Not Cited	PloS one ( 2010; 5: ) <b>"The presence of IL-17A and T helper 17 cells in experimental mouse brain tumors and human glioma."</b> Author(s):Wainwright DA,Sengupta S,Han Y,Ulasov IV,Lesniak MS PubMed Article URL: <a href="http://dx.doi.org/10.1371/journal.pone.0015390">http://dx.doi.org/10.1371/journal.pone.0015390</a>
	A-21294 was used in flow cytometry to investigate the effect of vesicular stomatitis virus infection on CNS system and inflammation induction
Mouse / Not Cited	Virology ( 2010; 400: 187) <b>"Vesicular stomatitis virus infects resident cells of the central nervous system and induces replication-dependent inflammatory responses."</b> Author(s):Chauhan VS,Furr SR,Sterka DG,Nelson DA,Moerdyk-Schauwecker M,Marriott I,Grdzlishvili VZ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.virol.2010.01.025">http://dx.doi.org/10.1016/j.virol.2010.01.025</a>

4 Immunohistochemistry (Frozen) References

Species / Dilution	Summary
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	A-21294 was used in immunohistochemistry - frozen section to address the mechanisms regulating the expression of CXCL10 in the central nervous system of lymphocytic choriomeningitis virus -infected mice
Not Applicable / 5 µg/ml	Journal of immunology (Baltimore, Md. : 1950) ( 2009; 182: 1079) <b>"Fulminant lymphocytic choriomeningitis virus-induced inflammation of the CNS involves a cytokine-chemokine-cytokine-chemokine cascade."</b> Author(s):Christensen JE,Simonsen S,Fenger C,Sørensen MR,Moos T,Christensen JP,Finsen B,Thomsen AR PubMed Article URL: <a href="http://dx.doi.org/10.4049/jimmunol.182.2.1079">http://dx.doi.org/10.4049/jimmunol.182.2.1079</a>
	A-21294 was used in immunohistochemistry - frozen section to investigate the role of CXCL11 in facial motoneuron survival
Not Applicable / Not Cited	Journal of neuroimmunology ( 2009; 216: 66) <b>"Effects of facial nerve axotomy on Th2- and Th1-associated chemokine expression in the facial motor nucleus of wild-type and presymptomatic mSOD1 mice."</b> Author(s):Wainwright DA,Xin J,Mesnard NA,Politis CM,Sanders VM,Jones KJ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.jneuroim.2009.09.009">http://dx.doi.org/10.1016/j.jneuroim.2009.09.009</a>
	A-21294 was used in immunohistochemistry - frozen section to assess the use of (99m)Tc-annexin V with SPECT to monitor the antiapoptotic effects of minocycline therapy
Not Applicable / 1:200	Journal of nuclear medicine : official publication, Society of Nuclear Medicine ( 2007; 48: 1822) <b>"Monitoring the protective effects of minocycline treatment with radiolabeled annexin V in an experimental model of focal cerebral ischemia."</b> Author(s):Tang XN,Wang Q,Koike MA,Cheng D,Goris ML,Blankenberg FG,Yenari MA PubMed Article URL: <a href="http://dx.doi.org/10.2967/jnumed.107.041335">http://dx.doi.org/10.2967/jnumed.107.041335</a>
	A-21294 was used in immunohistochemistry - frozen section to explore role of TLR2 in the facial motoneuron response to axotomy
Not Applicable / Not Cited	Neuroscience letters ( 2010; 471: 10) <b>"Toll-like receptor 2 and facial motoneuron survival after facial nerve axotomy."</b> Author(s):Wainwright DA,Xin J,Mesnard NA,Sanders VM,Jones KJ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neulet.2009.12.076">http://dx.doi.org/10.1016/j.neulet.2009.12.076</a>
<b>1 Flow Cytometry References</b>	
<b>Species / Dilution</b>	<b>Summary</b>
	A-21294 was used in flow cytometry to isolate and characterize microglia from adult mouse brains
Not Applicable / Not Cited	Journal of neuroscience methods ( 2010; 187: 243) <b>"A new method to isolate microglia from adult mice and culture them for an extended period of time."</b> Author(s):Moussaud S,Draheim HJ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.jneumeth.2010.01.017">http://dx.doi.org/10.1016/j.jneumeth.2010.01.017</a>

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