

Kynurenic acid monoclonal antibody

Ref: IS010

The monoclonal 4G12-A12 anti-Kynurenic acid antibody was validated for IHC and IF in human caudate putamen tissues. Competitive ELISA demonstrated the antibody to be highly affine and specific.

Clonality	Monoclonal antibody (clone 4G12-A12)
Host	Mouse (see anti-KYNA rabbit pAb)
Valided applications	IHC / IF
Specie reactivity	Reacts with all species
References	Not yet cited to our knowledge. Submit content and get a 10% discount!
Format	50µl

Product information

Product overview

Product name	Kynurenic acid antibody
Synonyms	Kinurenic acid antibody 4-Hydroxyquinoline-2-carboxylic acid antibody KYNA antibody
Immunogen	Conjugated kynurenic acid
Isotype	IgG1 k chain
Clone	clone 4G12-A12
Specificity	When tested in competitive ELISA, the anti-Kynurenic antibody 4G12-A12 did not show any significant cross reactivity with Quinaldic, Xanthurenic, Anthranilic, Picolinic or Quinolinic acid conjugates
Lot number	140201

Reconstitution & storage

Form	Lyophilized powder
Purity	Purified IgG
Concentration	0,5 mg/ml
Storage	Store at 4 °C
Storage buffer	Before use, vial should be resuspended in 50 µL of ultrapure water. Store at +4 °C for short term (1-2 weeks). Aliquot and store at -20 °C for long term. Avoid repeated freeze / thaw cycles

Protocols

Immunohistochemistry (IHC)	Dilute at 1:200-1:2000. Perform heat antigen retrieval (pH=6) before initiating IHC staining protocol on paraffin-embedded and frozen sections
Immunofluorescence (IF)	1:100-1:1000 on paraffin-embedded and frozen sections. Before staining, perform heat antigen retrieval
Comments	Optimal working dilutions must be determined by the end-user
Restrictions	For research use only

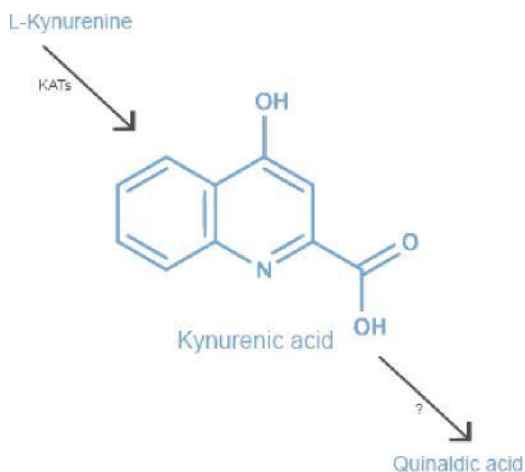
References

Antibody not yet cited. Submit an article and [get a 10% discount](#).

Selected articles on Kynurenic acid:

- [Justinova Z, Mascia P, Wu HQ, Secci ME, Redhi GH, Panlilio LV, Scherma M, Barnes C, Parashos A, Zara T, Fratta W, Solinas M, Pistis M, Bergman J, Kangas BD, Ferré S, Tanda G, Schwarcz R, Goldberg SR. Reducing cannabinoid abuse and preventing relapse by enhancing endogenous brain levels of kynurenic acid. Nat Neurosci. 2013 Nov;16\(11\):1652-61. doi: 10.1038/nn.3540. Epub 2013 Oct 13.](#)
- [Stone TW, Stoy N, Darlington LG. An expanding range of targets for kynurenine metabolites of tryptophan. Trends Pharmacol Sci. 2013 Feb;34\(2\):136-43. doi: 10.1016/j.tips.2012.09.006. Epub 2012 Nov 1.](#)
- [Schwarcz R, Bruno JP, Muchowski PJ, Wu HQ. Kynurenines in the mammalian brain: when physiology meets pathology. Nat Rev Neurosci. 2012 Jul;13\(7\):465-77. doi: 10.1038/nrn3257.](#)
- [Moroni F, Cozzi A, Sili M, Mannaioni G. Kynurenic acid: a metabolite with multiple actions and multiple targets in brain and periphery. J Neural Transm. 2012 Feb;119\(2\):133-9. doi: 10.1007/s00702-011-0763-x. Epub 2012 Jan 4.](#)
- [Linderholm KR, Skogh E, Olsson SK, Dahl ML, Holtze M, Engberg G, Samuelsson M, Erhardt S. Increased levels of kynurenine and kynurenic acid in the CSF of patients with schizophrenia. Schizophr Bull. 2012 May;38\(3\):426-32. doi: 10.1093/schbul/sbq086. Epub 2010 Aug 20.](#)
- [Stone TW, Forrest CM, Darlington LG. Kynurenine pathway inhibition as a therapeutic strategy for neuroprotection. FEBS J. 2012 Apr;279\(8\):1386-97. doi: 10.1111/j.1742-4658.2012.08487.x. Epub 2012 Mar 27.](#)

Product pictures

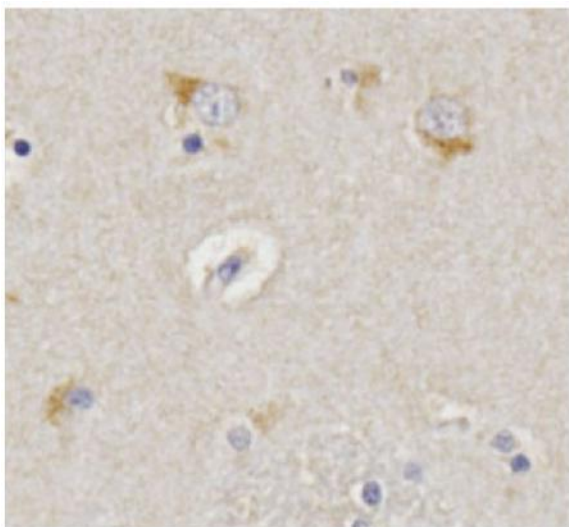
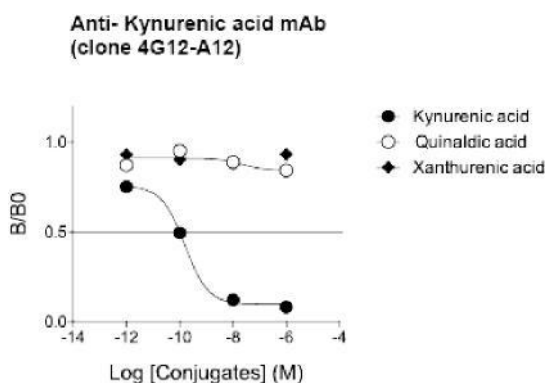


Kynurenic acid

Aerobic L-tryptophan degradation via the kynurenine pathway produces a range of neuroactive metabolites, including endogenous neurotoxin quinolinic acid and neuroprotective kynurenic acid. Kynurenic acid indeed possesses several molecular targets with antagonistic activities on the NMDA receptor and the $\alpha 7$ -nicotinic cholinergic receptor ($\alpha 7$ NR). Recently Kynurenic acid was also described to activate the orphan G-protein-coupled receptor GPR35.

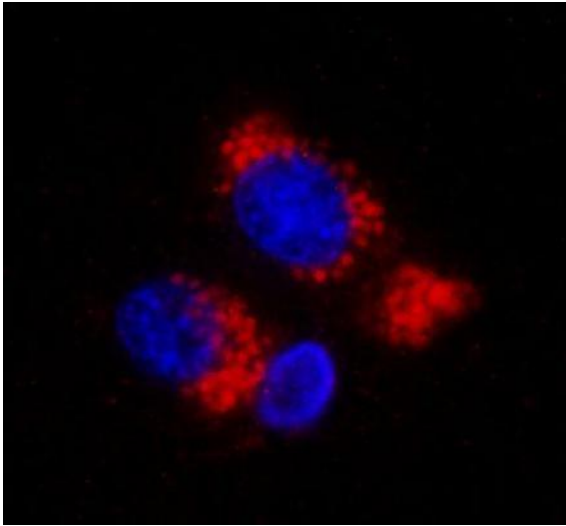
Affinity & specificity of anti-Kynurenic acid antibody

Competitive ELISA demonstrates that low amounts of Kynurenic acid conjugate are required to abolish antigen-antibody reaction (high affinity), while rising concentrations of Quinaldic and Xanthurenic acid conjugates do not affect the reaction (high specificity).



Kynurenic acid detection in human brain by IHC

Immunohistochemical analysis highlights cytoplasmic presence of kynurenic acid in glial cells in human caudate putamen. Paraffin-embedded brain tissue section was subjected to pH=6 antigen retrieval followed by overnight incubation with primary anti-kynurenic acid antibody (dilution 1/500). After incubation with polymer-conjugated secondary Ab, DAB was used to visualize the staining.



Kynurenic acid detection in human brain by IF

Immunohistofluorescence reveals kynurenic acid accumulation in the cytoplasm of human glial cells in human caudate-putamen. Paraffin-embedded tissue section was subjected to pH=6 antigen retrieval followed by overnight incubation with primary anti-Kynurenic acid antibody (dilution 1/250). After incubation with Alexa-555 conjugated secondary Ab, epifluorescence microscopy (100X) was used to visualize the staining.

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