

# Quinolinic acid monoclonal antibody

Ref: IS002

Confirmed to be highly specific and affine by competitive ELISA, the monoclonal anti- Quinolinic acid antibody 4E11-G3 was validated for immunofluorescence (IF) and immunohistochemistry (IHC) in human midbrain tissues.

<b>Clonality</b>	Monoclonal antibody (clone 4E11-G3)
<b>Host</b>	Mouse ( <a href="#">see anti-QUIN rabbit pAb</a> )
<b>Valided applications</b>	<a href="#">IHC</a> / IF
<b>Specie reactivity</b>	Reacts with all species
<b>References</b>	Not yet cited to our knowledge Submit content and <a href="#">get a 10% discount!</a>
<b>Format</b>	50µl

# Product information

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## Product overview

<b>Product name</b>	Quinolinic acid antibody
<b>Synonyms</b>	Pyridine-2,3-dicarboxylic acid antibody 2,3-pyridinedicarboxylic acid antibody 3,4-Pyridinedicarboxylic acid antibody Pyridine-3,4-dicarboxylic acid antibody
<b>Immunogen</b>	Conjugated quinolinic acid
<b>Isotype</b>	IgG1 k chain
<b>Clone</b>	clone 4E11-G3
<b>Specificity</b>	When tested in competitive ELISA, the anti-Quinolinic acid antibody did not show any significant cross reactivity with Picolinic and Quinaldic acid conjugates
<b>Lot number</b>	140201

## Reconstitution & storage

<b>Form</b>	Lyophilized powder
<b>Purity</b>	Purified IgG
<b>Concentration</b>	0,5 mg/ml
<b>Storage</b>	Store at 4 °C
<b>Storage buffer</b>	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

<b>Immunohistochemistry (IHC)</b>	Dilute at 1:100-1:1000. Perform heat antigen retrieval (pH=9) before initiating IHC staining protocol on paraffin-embedded and frozen sections
<b>Immunofluorescence (IF)</b>	Dilute at 1:50-1:500 on paraffin-embedded and frozen sections. Perform heat antigen retrieval and incubate fluorescent dyes conjugated secondary antibody
<b>Comments</b>	Optimal working dilutions must be determined by the end-user
<b>Restrictions</b>	For research use only

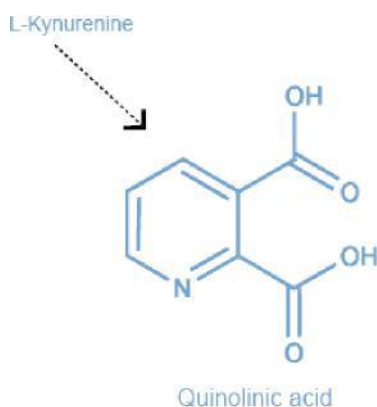
# References

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[discount!](#) Selected publications about Quinolinic acid:

- [Lugo-Huitrón R, Ugalde Muñiz P, Pineda B, Pedraza-Chaverrí J, Ríos C, Pérez-de la Cruz V. Quinolinic acid: an endogenous neurotoxin with multiple targets. Oxid Med Cell Longev. 2013;2013:104024. doi: 10.1155/2013/104024. Epub 2013 Sep 5. Review.](#)
- [Wu W, Nicolazzo JA, Wen L, Chung R, Stankovic R, Bao SS, Lim CK, Brew BJ, Cullen KM, Guillemin GJ. Expression of tryptophan 2,3-dioxygenase and production of kynurenine pathway metabolites in triple transgenic mice and human Alzheimer's disease brain. PLoS One. 2013 Apr 22;8\(4\):e59749. doi: 10.1371/journal.pone.0059749. Print 2013](#)
- [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.](#)
- [Guillemin GJ. Quinolinic acid, the inescapable neurotoxin. FEBS J. 2012 Apr;279\(8\):1356-65. doi: 10.1111/j.1742-4658.2012.08485.x. Epub 2012 Mar 27. Review](#)

# Product pictures

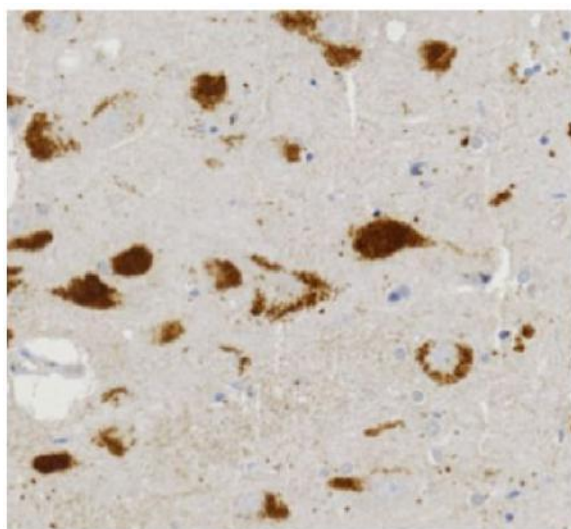
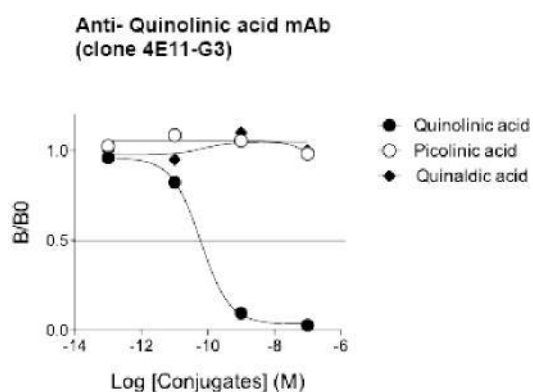


## Quinolinic acid

Tryptophan catabolism along the kynurenine pathway produces neuroactive metabolites, with prototypical neurotoxin Quinolinic acid as a 'chef de file'. Known to be involved in a wide range of neurodegenerative diseases (Amyotrophic lateral sclerosis, Alzheimer's & Parkinson's diseases, ...) as well as psychiatric disorders (depression, schizophrenia, ...), Quinolinic acid induces neuronal damage. Activation of the NMDA-receptor, oxidative stress induction or mitochondrial dysfunction could explain quinolinic acid-induced neurotoxicity.

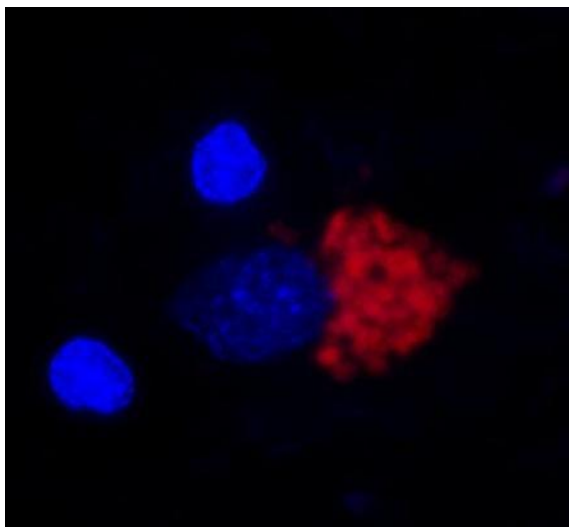
## Anti- Quinolinic acid antibody affinity & specificity

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



## Quinolinic acid detection in human midbrain by immunohistochemistry (IHC)

Immunohistochemical analysis reveals cytoplasmic presence of Quinolinic acid in human midbrain tissue. Paraffin-embedded tissue section was subjected to pH=9 antigen retrieval followed by overnight incubation with primary anti-quinolinic acid antibody (dilution 1/500). After incubation with polymer-conjugated secondary Ab, DAB was used to visualize the staining.



#### Quinolinic acid detection in human midbrain by immunohistofluorescence (IHF)

Immunofluorescence staining highlights nuclear exclusion of Quinolinic acid in human midbrain. Paraffin-embedded brain tissue section was subjected to pH=9 antigen retrieval followed by overnight incubation with primary anti-Quinolinic 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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