

Kynureninic Acid/Quinolinic Acid ELISA pack

Ref: ISE-0102R

Through the degradation of L-Tryptophan, the Kynurenine pathway (KP) generates a series of catabolites collectively known as Kynurenines, which can exert immunomodulatory and/or neuroactive properties. Known to respectively harbor neuroprotective and neurotoxic functions, **Kynurenic (KYNA)** and **Quinolinic (QA) acids** are found to be dysregulated in several neuroinflammatory disorders including Parkinson and Alzheimer disease but also Amyotrophic Lateral Sclerosis and Multiple Sclerosis.

Intended for research use only, the two kits included in the pack are ready to use, optimized for the quantitation of Kynurenic Acid (KYNA) and Quinolinic Acid (QA) within **serum and plasma** samples. These easy-to-use competitive assays are well-suited for both small and large series of samples. Working with a 25-50µL sample volume, these assays enable pre-clinical and clinical sample testings.

Sample type Serum, Plasma

Kit capacity 2 x 96 tests

Sensitivity LoD KYNA: 0.53ng/ml LoD QA: 6ng/ml

Range KYNA: 1.40 - 74ng/ml QA: 25 - 200ng/ml

Reactivity Reacts with all species

INFORMATIONS

Product overview

Product name	Kynurenic Acid/Quinolinic Acid ELISA pack
Description	Two enzyme immunoassays (ELISA) allowing the quantitative determination of Kynurenic acid and Quinolinic acid in serum samples. For research use only
Labels	RUO
Format	2 x 96-well plate
Samples	Serum, Plasma
Minimum sample volume	25-50µL
Reactivity	Reacts with all species
Standard range	KYNA: 1.40 – 74ng/ml QA: 25 – 2000ng/ml
Sensitivity	LoD KYNA: 0.53ng/ml LoD QA: 6ng/ml
Specificity	No significant cross-reactivity was observed analogs for each kit. See product pages for Kynurenic acid ELISA and Quinolinic acid ELISA
Storage	Store at 2-8°C for to 6 months
Datasheets	Instructions for use – KYNA kit , Instructions for use – QA kit Safety datasheet – KYNA kit , Safety datasheet QA kit

PROTOCOLS

Sample collection & storage

Serum: Do not use lipemic, haemolytic samples, as well as samples containing precipitates or fibrin strands. Store samples at 2-8°C for up to 48h or -20°C for longer period (up to 6 months)

Sample preparation

KYNA: Sample derivatization (90 min)
QA: Sample acylation (120 min)

ELISA

Antisera overnight incubation, revelation and read steps (1h)

Detailed protocol

[Instructions for use - KYNA kit](#), [Instructions for use - QA kit](#)

REFERENCES

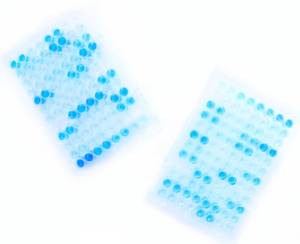
Selected articles on Kynurenic acid

- [Pedraz-Petrozzi et al. Effects of inflammation on the kynurenine pathway in schizophrenia - a systematic review. J Neuroinflammation. 2020](#)
- [Achtyses et al. Inflammation and kynurenine pathway dysregulation in post-partum women with severe and suicidal depression. Brain Behav Immun. 2020](#)
- [Walczak et al. Kynurenic acid and cancer: facts and controversies. Cell Mol Life Sci. 2019](#)
- [Lim et al. Kynurenine pathway metabolomics predicts and provides mechanistic insight into multiple sclerosis progression. Sci Rep. 2017](#)
- [Plitman et al. Kynurenic Acid in Schizophrenia: A Systematic Review and Meta-analysis. Schizophr Bull. 2017](#)
- [Wirthgen et al. Kynurenic Acid: The Janus-Faced Role of an Immunomodulatory Tryptophan Metabolite and Its Link to Pathological Conditions. Front Immunol. 2017](#)

Selected articles on Quinolinic acid

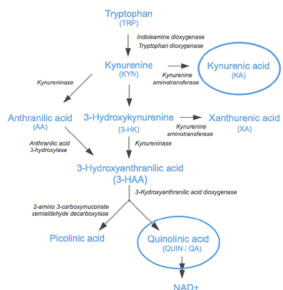
- [Fertan et al. Effects of the Novel IDO Inhibitor DWG-1036 on the Behavior of Male and Female 3xTg-AD Mice. Front Pharmacol. 2019 Sep;24](#)
- [Pierozan et al. Synergistic Toxicity of the Neurometabolites Quinolinic Acid and Homocysteine in Cortical Neurons and Astrocytes: Implications in Alzheimer's Disease. Neurotox Res. 2018 Jul;34](#)
- [Hernandez-Martinez et al. Quinolinic acid induces neuritogenesis in SH-SY5Y neuroblastoma cells independently of NMDA receptor activation. Eur J Neurosci. 2017 Mar;45](#)
- [Sundaram et al. Quinolinic acid toxicity on oligodendroglial cells: relevance for multiple sclerosis and therapeutic strategies. J Neuroinflammation. 2014 Dec 13](#)
- [Guillemin GJ. Quinolinic acid, the inescapable neurotoxin. FEBS J. 2012 Apr;279](#)

Product pictures



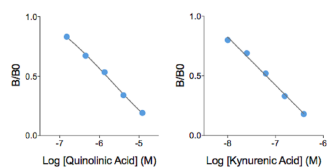
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KYNA and QA along the Kynurenine Pathway

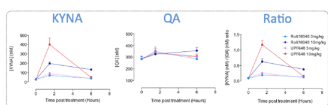
Kynurenic acid (KYNA) and Quinolinic acid (QA) are downstream metabolites produced along the Kynurenine Pathway well-known to possess several neuromodulatory functions, as well as immuno-modulatory properties. Measurement of KYNA and QA in biological samples has been presented as possible biomarkers in several diseases.



KYNA / QA ELISA standard curves

Examples of standard curves obtained with the Kynurenic acid and Quinolinic acid ELISA kits. In these competitive ELISA, optical density is invertly correlated with Kynurenic acid/Quinolinic acid levels. Only serves as example - do not use for calculation.

Measurement of plasma levels of both KYNA and QA in mice treated with KMO inhibitors.



Mice were treated with two selective KMO inhibitors – Ro-618048 & UPF648 – at two different doses each. Plasma samples were collected before treatment and at 1h30 and 6h post-treatment. KYNA and QA levels were then quantified by mean of ELISA (IS-I-0200 and IS-I-0100)

Contact information

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To order, review, ask for technical support, visit product page at:

<https://www.immusmol.com/shop/kynureninic-acid-quinolinic-acid-elisa-pack/>