

# Ornithine ELISA kit – High Sensitivity – Plasma samples

Ref: IS-I-1000R

Free L-Arginine (Arg) is provided by diet, de novo synthesis and protein turnover. De novo synthesis is sufficiently important to not consider Arg as an essential amino acid. However, in some circumstances - eg. early development, infection and inflammation - de novo synthesis is not enough and require dietary Arg, which is thus classified as a conditionally-essential amino acid. Whatever the source, Arg can be metabolized through different degrading pathways which include **i)** the nitric oxide synthase (NOS) pathway providing Citrulline and NO, as well as **ii)** the well-known Arginase pathway leading to the production of Urea and **L-Ornithine (Orn)**.

**Sample type** Plasma

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**Capacity** 96 tests

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**Sensitivity** 8.5 $\mu$ M

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**Range** 20 – 781.25 $\mu$ M

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**Assay time** Sample preparation 3h, ELISA overnight

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**Reactivity** Reacts with all species

## INFORMATIONS

### Product overview

<b>Product name</b>	L-Ornithine ELISA kit
<b>Description</b>	Competitive ELISA kit for the quantitative measurement of L-Ornithine (Orn) in plasma samples. <b>For research use only</b>
<b>Format</b>	96-well plate
<b>Samples</b>	Plasma
<b>Minimal sample volume</b>	20µL
<b>Reactivity</b>	Reacts with all species
<b>Standard range</b>	20 – 781.25µM
<b>Sensitivity</b>	8.5µM
<b>Specificity</b>	No significant cross-reactivity was observed with Agmatine, L-Arginine, NG-Methyl-L-Arginine, L-Argino-succinate, L-Citrulline, L-Glutamine & L-Glutamate
<b>Assay time</b>	Sample preparation 3h and ELISA overnight
<b>Storage</b>	Store at 2-8°C for up to 6 months
<b>Datasheets</b>	<a href="#">Instructions for use</a> , <a href="#">Material Safety Datasheet</a>

For research use only – Do not use for diagnostic

## PROTOCOLS

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**Sample collection & storage**      EDTA Plasma  
Store samples at 2-8°C for up to 48h or -20°C for longer period (up to 6 months)

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**Sample preparation**      Sample preparation (3 hours)

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**ELISA**      L-Ornithine antiserum overnight incubation, revelation and read steps (1h)

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**Detailed protocol**      [Download instructions for use](#)

## REFERENCES

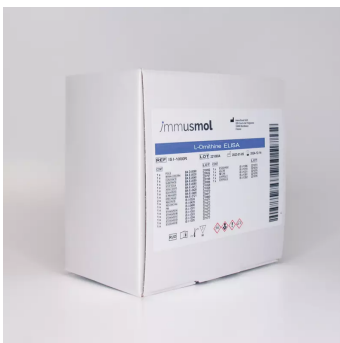
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### Selected articles on Ornithine

- Caldwell et al., [Arginase: A Multifaceted Enzyme Important in Health and Disease](#), Physiol Rev., 2018
- Niu et al., Arginase: [An emerging and promising therapeutic target for cancer treatment](#), Biomed Pharmacother. 2022
- Apiz-Saab et al., [Pancreatic tumors activate arginine biosynthesis to adapt to myeloid-driven amino acid stress](#), bioRxiv 2022

## Product pictures

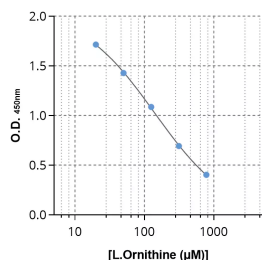
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### L-Ornithine ELISA kit

IS-I-1000R ELISA kit

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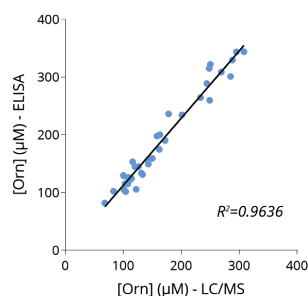
### Typical standard curve of Ornithine ELISA

Typical standard curve obtained with the Orn ELISA kit. In this competitive enzyme immunoassay, optical density is inversely correlated with Orn levels within a linear range of 20 - 781.25µM. (example data - do not use for calculation).



### L-Ornithine ELISA kit

IS-I-1000R ELISA kit



### Cross-validation of L-Ornithine ELISA and LC/MS data in human plasma samples

Orn was quantified in human plasma samples from healthy subjects using IS-I-1000R ELISA kit or by LC/MS. Correlation study showed  $R^2=0.9636$ , thereby confirming the accuracy of the immunoassay

## Contact information

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

<https://www.immusmol.com/shop/ornithine-elisa-kit/>