

# L-Lysine ELISA kit – High Sensitivity – Plasma Samples

Ref: IS-I-1400R

L-Lysine (Lys) is an essential amino acid since it's not produced in the body and must be supplied through the diet. It's one of the building blocks for protein, peptide and non-peptide synthesis, and is thus found involved in several physiological and biochemical processes. Imbalance in circulating Lys levels can be observed in many conditions such as inherited diseases on enzymes involved in Lys catabolism, diabetes-dependent cardiovascular disease, as well as human immunodeficiency viruses-1 infection.

In order to provide an accurate and easy-to-implement tool to evaluate Lys functions, we developed and validated a novel ELISA kit for Lys quantitation in plasma samples. The assay requires a sample volume as low as 20 $\mu$ L and is characterized by a 13 $\mu$ M sensitivity.

**Sample type** Plasma

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**Capacity** 96 tests

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**Sensitivity** 13 $\mu$ M

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**Range** 16 - 650 $\mu$ M

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

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**Reactivity** Reacts with all species

## INFORMATIONS

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### Product overview

<b>Product name</b>	L-Lysine ELISA kit
<b>Description</b>	Competitive ELISA kit for the quantitative measurement of L-Lysine (Lys) 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>	16 – 650µM
<b>Sensitivity</b>	13µM
<b>Specificity</b>	No significant cross-reactivity was observed with Cadaverine dihydrochloride, L-HomoArginine hydrochloride, N-methyl-L-Lysine hydrichloride and N-acetyk-L-Lysine
<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-Lysine 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 Lysine

- Yin et al., [Effects of Lysine deficiency and Lys-Lys dipeptide on cellular apoptosis and amino acids metabolism](#), Mol Nutr Food Res, 2017
- Guoyao Wu, [Functional amino acids in nutrition and health](#), Amino Acids, 2013
- Lieu et al., [Amino acids in cancer](#), Exp Mol Med, 2020
- Razquin et al., [Lysine pathway metabolites and the risk of type 2 diabetes and cardiovascular disease in the PREDIMED study: results from two case-cohort studies](#), Cardiovasc Diabetol., 2019
- E. Butorov, [Relationship between plasma l-lysine concentrations and levels of HIV-1 RNA](#), Virulence, 2013

## Product pictures

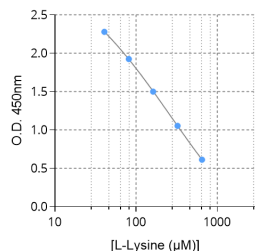
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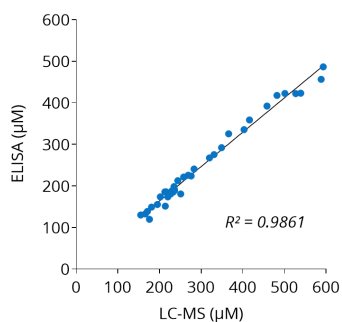
### # IS-I-1400 : L-Lysine (Lys) ELISA kit

96-w plate format // Low volume samples // Sensitive, easy-to-implement // Cross-validated with LC/MS

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Typical standard curve of Lysine ELISA



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

Lys was quantified in human plasma samples from 38 healthy subjects using IS-I-1400 ELISA kit or by LC/MS. Correlation study showed  $R^2=0.986$ , 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/l-lysine-elisa-kit/>