

# L-Tryptophan ELISA kit

Ref: BA-E-2700

This Tryptophan ELISA kit enables the quantitative measurement of L-Tryptophan in biological fluids and cell culture supernatants. Intended for *in vitro* diagnostics and research applications, the test comes in 96-well plate format, allowing the screening of large experimental series within short lead times.

<b>Sample type</b>	Biological fluids (urine, plasma, serum, ...) and cell culture supernatant.
<b>Capacity</b>	96 tests
<b>Sensitivity</b>	< 1.2µg/ml
<b>Range</b>	2.5 - 250 µg/ml
<b>Assay time</b>	2h30 sample preparation and ELISA overnight
<b>Species reactivity</b>	Reacts with all species
<b>References</b>	<u><a href="#">Citations in the literature</a></u>

# Product information

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## Product overview

<b>Product name</b>	Tryptophan ELISA kit
<b>Description</b>	<i>In vitro diagnostic</i> enzyme immunoassay (ELISA) for the quantitative determination of L-Tryptophan in biological fluids (urine, plasma, serum samples, ...) and cell culture supernatants.
<b>Labels</b>	IVD, CE
<b>Format</b>	96-well plate
<b>Samples</b>	urine, plasma, serum, cell culture supernatant
<b>Sample volume</b>	20 µL
<b>Cross species-reactivity</b>	React with all species
<b>Standard range</b>	2.5 - 250 µg/ml
<b>Sensitivity</b>	< 1.2µg/ml
<b>Specificity</b>	No significant cross-reactivity was observed with L-Tryptophan analogs such as 5-Hydroxy-L-tryptophan, Tryptamine, 5-Methoxytryptophan, 5-Hydroxytryptamine, N-acetyl-5-hydroxytryptamine.
<b>Assay time</b>	Sample preparation 2.5 hours and ELISA overnight
<b>Storage</b>	Store at 2-8°C for to 6 months.
<b>Datasheets</b>	<a href="#">Instructions for use</a> , <a href="#">Material safety datasheet</a>

# Protocols

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<b>Sample collection &amp; storage</b>	<p><u>Urine</u>: spontaneous or 24-hour urine collected in bottle with 10-15 mL of 6 M HCl, stored at -20°C for long periods (up to 6 months)</p> <p><u>Plasma/Serum</u>: EDTA-, Heparin- or Citrate- samples stored at 2-8°C for up to 48h or -20°C for longer period (up to 6 months). Do not use haemolytic or lipemic samples.</p>
<b>Sample preparation</b>	Sample precipitation (15 min) and derivatization (2h15)
<b>ELISA</b>	Tryptophan antiserum overnight incubation, revelation and read steps (1h).
<b>Detailed protocol</b>	<a href="#">Download instructions for use</a>

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# References

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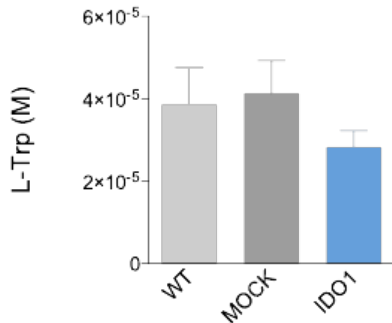
## PrProduct citations :

- [Watanabe et al. Adding indoximod to hypofractionated radiotherapy with anti-PD-1 checkpoint blockade enhances early NK and CD8+ T cell-dependent tumor activity. Clin Cancer Res. 2019 Nov 6](#)
- [Walker et al. Leucine competes with kynurenine for blood-to-brain transport and prevents lipopolysaccharide-induced depression-like behavior in mice. Mol Psychiatry. 2018 Jul 9.](#)
- [Ziklo et al. Dysbiosis of the Vaginal Microbiota and Higher Vaginal Kynurenine/Tryptophan Ratio Reveals an Association with Chlamydia trachomatis Genital Infections. Front Cell Infect Microbiol. 2018 Jan 18.](#)
- [Gautam et al. In vivo inhibition of tryptophan catabolism reorganizes the tuberculoma and augments immune-mediated control of Mycobacterium tuberculosis. Proc Natl Acad Sci U S A. 2018 Jan 2](#)
- [Martín-Hernández et al. Chronic Mild Stress Alters Kynurenine Pathways Changing the Glutamate Neurotransmission in Frontal Cortex of Rats. Mol Neurobiol. 2018 May 3](#)
- [Toulmonde et al. Use of PD-1 Targeting, Macrophage Infiltration, and IDO Pathway Activation in Sarcomas. JAMA Oncol. 2018 Jan 1;4](#)
- [Ziklo et al. In vitro rescue of genital strains of Chlamydia trachomatis from interferon-γ and tryptophan depletion with indole-positive, but not indole-negative Prevotella spp. BMC Microbiol. 2016 Dec 3.](#)

# Product pictures

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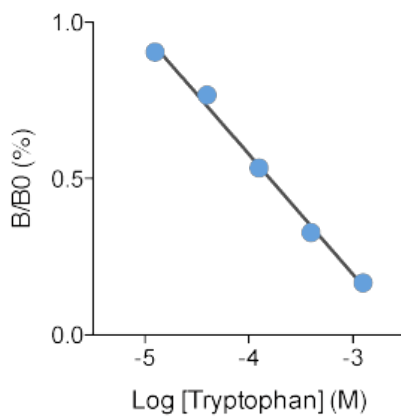
## Determination of L-Tryptophan levels in CT26 cell cultures by ELISA



Murine CT26 tumor cell line was stably transfected with either empty vector (Mock) or vector containing cDNA encoding for indoleamine 2,3 dioxygenase (IDO1). Cells were cultured for 48 hours and Tryptophan was measured using the Tryptophan ELISA kit. As expected, Tryptophan level was significantly lower in IDO1-proficient CT26 cells than in mock or parental (WT) CT26 cell lines.

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## Tryptophan ELISA: Standard curve



Standard curve - to be generated every time the assay is performed.

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## L-Tryptophan ELISA Kit



Essential amino acid L-Tryptophan is either converted into Serotonin in the gut or brain by tryptophan hydroxylase (TPH), or metabolized by various cell types to form L-Kynurenine through enzymes indoleamine 2,3-dioxygenase (IDO1/2) or tryptophan 2,3-dioxygenase (TDO2). Abnormal tryptophan metabolism is found in a wide range of pathologies, including metabolic and auto-immune diseases, viral infections, cancer, as well as neurodegenerative and mood disorders.

# Contact information

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**IMMUSMOL SAS**

229 Cours de l'Argonne  
33000 Bordeaux - France  
Tel: +33 (0)5 6431 1170  
[www.immusmol.com](http://www.immusmol.com)

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

<https://www.immusmol.com/tryptophan-elisa-kit-in-vitro-diagnostics.html>