

# Tryptophan metabolism assay

Metabolomics at the intersection of immunity, neuronal function, and gut homeostasis

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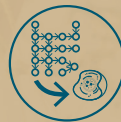
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# Tryptophan metabolism assay

Three pathways, one solution

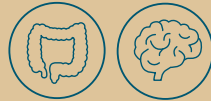
## Kynurenine

The kynurenine pathway plays a major role in inflammatory signaling. Metabolite ratios from this pathway enable insights into enzyme activities and immune activation.



## Serotonin

The serotonin pathway and its metabolites are crucial in gut-brain axis communication. The metabolite serotonin itself is, among others, involved in learning, mood regulation, and sleep.



## Indole

Indole derivatives are direct signaling molecules used by the microbiome in communication with the host. Indole derivatives are involved in inflammatory pathways.



## Covered metabolites

Analyte	LLOQ* [ $\mu\text{M}$ ] in plasma   serum	
Tryptophan	0.1	Serotonin pathway
5-Hydroxyindoleacetic acid (5-HIAA)	0.002	
5-Hydroxytryptophan	0.001	
Serotonin	0.005	
Anthranilic acid	0.001	
3-Hydroxyanthranilic acid	0.002	Kynurenine pathway
3-Hydroxykynurenine	0.002	
Kynurenic acid	0.0002	
Kynurenine	0.01	
Picolinic acid	0.002	
Quinaldic acid	0.001	
Quinolinic acid	0.1	
Xanthurenic acid	0.001	
Nicotinamide	0.001	Indole pathway
Nicotinic acid	0.002	
3-Indolepropionic acid (IPA)	0.01	
Neopterin	0.001	

Standardized, quality-controlled assay with absolute quantification, and comprehensive coverage of the tryptophan pathway in a single assay.

### Analytical details

- LC-MS-based assay
- Robust 7-point calibration
- 3 levels of quality controls

### Sample requirements

- 120  $\mu\text{L}$  plasma/serum (assay volume: 100  $\mu\text{L}$ )
- 100 mg tissue
- 200 – 500 mg feces, wet weight
- 120  $\mu\text{L}$  urine
- For other matrices, please contact us (<https://biocrates.com/contact>)

\* Lower limit of quantification

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