

## Histamine ELISA (RE59221)

Histamine is a potent mediator of numerous biological reactions.

It is formed by the enzymatic decarboxylation of histidine, and therefore has to be considered as biogenic amine. In human organism it is virtually ubiquitous in tissues and body fluids, being mainly stored in its inactive form in the metachromatic granula of mast cells and basophilic leucocytes.

On release, histamine functions as potent mediator of numerous physiological and pathophysiological processes in nearly all organs and tissues.

Histamine has been clearly implicated as a primary mediator of "acute phase" allergic reactions. Its biological activities in tissue are mediated by four different cell surface receptors.

The IBL Histamine ELISA can be used for measurement of histamine in human plasma and urine. Further the test can be used for research of cell culture supernatants and tissue.

Because of a specific sample preparation by acylation prior to ELISA, the customer is able to use all kind of animal species material. IBL offers also a supplementary kit for performance of a **Histamine Release** test in heparinised whole blood (cat. no. RE95000).

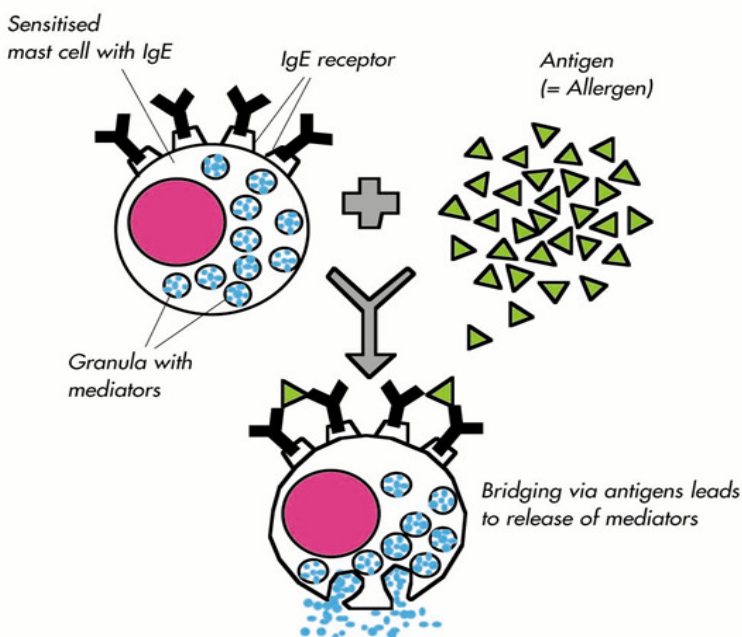


Figure 1: Allergen induced histamine release

Following stimulation of mast cells and basophiles by allergen, histamine is released explosively into surrounding tissues and body fluids.



**Principle of test:** Solid phase enzyme-linked immunosorbent assay (ELISA) based on the competition principle. An unknown amount of antigen present in the sample and a fixed amount of enzyme labelled antigen compete for the binding sites of the antibodies coated onto the wells. After incubation the wells are washed to stop the competition reaction. After the substrate reaction the intensity of the developed color is inversely proportional to the amount of the antigen in the sample. Results of samples can be determined directly using the standard curve.

**Formate:** 12 microtiter break apart strips with 8 wells each (96 determinations)

**Sample size:** 50 µL urine, 100 µL plasma

**Incubations:** Acylation: 30 min. at room temperature;  
ELISA: Antiserum 3 hours at room temperature, substrate plasma 40 min. at room temp., urine 20 min. at room temp.

**Reference values:** Urine: Histamine 5 – 56 µg/d.  
Plasma: Histamine 0.2 - 1.0 ng/mL.

**Standards:** Seven standards Histamine (lyophilized).

**Sensitivity:** Urine: Histamine 1.3 ng/mL  
Plasma: Histamine 0.14 ng/mL

<b>Specificity</b>	Compound	Cross reactivity (%)
	Histamine	100
	N-Acetyl-Histamine	<0.34
	3-Methyl-Histamine	<0.09
	L-Histidine	<0.001
	Cadaverin	<0.001

#### **Advantages:**

- total assay time of about 4 hours
- liquid ready to use acylation reagent
- 2 plasma controls included
- wide standard range

**Indications:** Assessment of histamine release in the initial phase of an anaphylactic reaction ("immediate-type" allergy). Determination of histamine in various body fluids. Control of hyposensitization.

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