

Histamine Assay Kit

Histamine EIA Kit

CATALOG #
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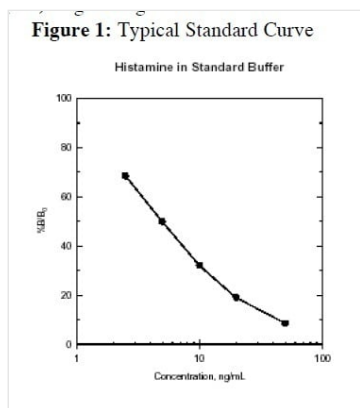
PRODUCT SYNONYMS

Histamine; Histamine EIA Kit; Histamine assay kit

PRODUCT SPECIFICATIONS

Procedural Notes	1. Glassware should not be used for extraction purposes. As Histamine may adhere to glass, using glassware may affect test results. 2. The kit should be brought to room temperature prior to use. 3. To minimize errors in absorbance measurements due to handling, wipe the exterior bottom of the microplate wells with a lint-free paper towel prior to inserting into the plate reader.
Reagent Preparation	1. PBS Buffer: Add the contents of the pouch to 1.0 L of deionized water prior to use. 2. 25x Wash Buffer: Add 30 mL to 720 mL of deionized water prior to use.
Sample Preparation	The amount of Histamine in your samples may differ. It is recommended that you conduct a preliminary test to determine the optimum dilution for your samples. Typically, tissue culture media, tissue extracts, cell and cell-free extracts can be used. The samples to be analyzed with this kit must have a pH of 6-8. Excessively acidic or alkaline samples should be adjusted using 0.1 N NaOH or HCl.
Standard Curve Preparation	The Histamine Standards are provided ready-to-use in the following concentrations: 0, 2.5, 5, 10, 20, and 50 ng/mL.
Preparation and Storage	1. Store the components of this kit at the temperatures specified on the labels. 2. Unopened reagents are stable until the indicated kit expiration date. 3. Desiccant bag must remain in foil pouch with unused strips. Keep pouch sealed when not in use to maintain a dry environment. Remove excess air before sealing.

IMAGES



Application Data

Scheme 1: Sample Plate Layout

	1	2	3	4	5	6	7	8	9	10	11	12
A	S0	S0	U3	U3	U11	U11	U19	U19	U27	U27	U35	U35
B	S1	S1	U4	U4	U12	U12	U20	U20	U28	U28	U36	U36
C	S2	S2	U5	U5	U13	U13	U21	U21	U29	U29	U37	U37
D	S3	S3	U6	U6	U14	U14	U22	U22	U30	U30	U38	U38
E	S4	S4	U7	U7	U15	U15	U23	U23	U31	U31	U39	U39
F	S5	S5	U8	U8	U16	U16	U24	U24	U32	U32	U40	U40
G	U1	U1	U9	U9	U17	U17	U25	U25	U33	U33	U41	U41
H	U2	U2	U10	U10	U18	U18	U26	U26	U34	U34	BLK	BLK

Application Data

Related Product Information for Histamine assay kit	Introduction: Histamine is a heterocyclic primary amine derived from the decarboxylation of the amino acid histidine. It is a mediator of inflammation closely associated with the initial phase of immediate hypersensitivity response (anaphylaxis). Histamine is synthesized by the enzyme histidine decarboxylase and is present in most cells, but typically stored in metachromatic granules of basophils and mast cells (granulocytes) (1). Histamine in the intracellular granules is bound to proteins and inactive until it is released from the cells. During anaphylactic response, an antigen-IgG antibody complex formed in vivo activates the complement cascade and cleaves bioactive complement associated peptides called anaphylatoxins. Among anaphylatoxins, C3a, which is derived from the complement component C3, and C5a derived from C5 releases histamine from mast cells (2). In IgE-mediated immediate hypersensitivity response, an IgE antibody is produced by B lymphocytes upon stimulation by an allergen and under the control of IL-13 and IL-4. Such IgE antibodies are secreted from B lymphocytes and bound to a high affinity receptor (FcεR1 High binding IgE receptor) on mast cells in the tissue or on basophilic leukocytes in the peripheral blood leukocytes (3). When IgE bearing mast cells or basophils encounter an allergen to which the IgE antibody was directed, the allergen (antigen) binds to the cell-bound IgE and agglutinates on the surface of these cells. This event triggers the release of granules into the blood stream. Degranulation of the mast cell involves the release of mediators such as leukotriene C4, D4, B4, thromboxane A2, PGD2, Platelet Activating Factor, histamine, heparin, tryptase, kallikrein, ECF-A, IL-8 and other cytokines. Histamine released from mast cell acts on smooth muscle and blood vessels, causing bronchoconstriction, vasodilation and increased vascular permeability (erythema)(4). Histamine exerts its biological effects through three distinct receptors on various tissues and cells: H1, H2 and H3. Among these histamine receptors, H2 receptor is best recognized as associated with secretion of acid in the stomach leading to peptic ulcer. Thus, an H2 receptor antagonist is used for treatment of peptic ulcers (5). Tissue bound mast cells (such as in the skin, nasal mucosa) respond to incoming allergen and manifest as erythema (e.g. in skin test) and wheezing response. In various research areas, it is important to study in vitro histamine release from peripheral blood basophils. When whole blood from a sensitized animal is exposed to a given allergen, basophils respond to the allergen by releasing histamine into the incubation mixture. Using a whole blood sample, one can assess ex vivo response to a sensitizing antigen as a function of histamine released from the basophils (6). Other than histamine being an important mediator of immediate hypersensitivity, histamine is found in decaying fish meat, especially of scombroid fish such as tuna. For this reason histamine is called "Scombrototoxin"(7). Histamine is also found in wine (8) and cheese (9). Principle of assay: This Histamine kit is a competitive direct ELISA (Enzyme-Linked Immunosorbent Assay) in a microwell format that allows users to obtain exact concentrations of histamine in nanograms per milliliter. The microwells in this assay kit are pre-coated with a monoclonal antibody to histamine. The sample or standard solution is first added to the antibody-coated microplate. Next, the enzyme conjugate is added and the mixture is shaken and incubated at room temperature for 45 minutes. During the incubation, unbound (free) histamine in the samples or standards is allowed to compete with enzyme (horseradish peroxidase: HRP)-labeled histamine (conjugate) for antibody binding sites. The plate is then washed, removing all the unbound material. The bound enzyme conjugate is detected by the addition of a one-component substrate that generates color by horseradish peroxidase. An optimal color is generated after 30 minutes. A microplate reader is then used to take an absorbance reading at 650 nm. Quantitative test results may be obtained by measuring and comparing the absorbance reading of the sample wells against the standard curve with the use of a log-logit curve-fitting model. The extent of color development is inversely proportional to the amount of histamine in the sample or standard. For example, the absence of histamine in the sample will result in a bright blue color, whereas the presence of histamine will result in decreased or no color development.
References	1. Stites, D.P., et. al.; (1987) "Basic and Clinical Immunology, a Lange Medical Book" (Sixth Edition), Appleton & Lange, Chapter 15, pp 208-209 2. Roitt, I.; (1988) "Essential Immunology", Blackwell Scientific Publications, pp 8-11 3. Wiley, J., et. al.; (1999) Biochemical Pathways: An atlas of biochemistry and molecular biology, p 246 4. Roitt, I., et. al.; (1998) "Immunology" (Fifth Edition), Mosby, pp 68-69 5. Stites, D.P., et. al.; (1987) "Basic and Clinical Immunology, a Lange Medical Book" (Sixth Edition), Appleton & Lange, Chapter 24, p 441 6. Roitt, I., et. al.; (1998) "Immunology" (Fifth Edition), Mosby, Chapter 23, pp 301-317 7. Scoging, A.; (1998) Commun Dis Public Health 1:204-205 8. Buteau, C. and Duitschaeffer, C.L.; (1984) J Chromatography 284:201-210 9. Vale, S.R., et. al.; (1997) J AOAC International 80(5):1006-1012 10. Ferrer, M., et. al.; (1998) Clin Exp Allergy 28(6):709-714 11. Ishihara, K., et. al.; (1998) Lipids 33(11):1107-1114 1 12. Kim, H.M., et. al.; (1997) Pharmacol Res 36(6):475-480 1 13. Demoly, P., et. al.; (1999) Allergy 54:500-506

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/histamine/71799>