

PRODUCT DATA SHEET

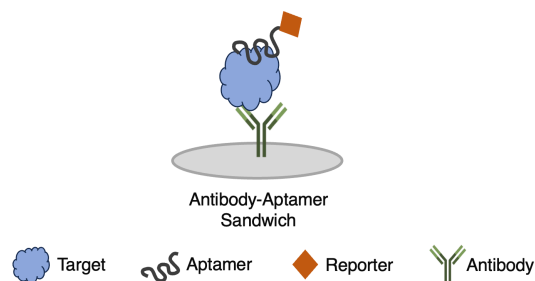
Human Thrombin ELASA Kit

Description

Thrombin is a serine protease enzyme that plays a critical role in hemostasis by converting fibrinogen into fibrin, leading to blood clot formation. The molecular weight of human thrombin is approximately 37 kDa for the α -thrombin form, which is the enzymatically active form of thrombin. It is a key enzyme in the coagulation cascade, regulating platelet activation, clot stabilization, and wound healing. Dysregulation of thrombin activity is associated with various pathological conditions, including thrombosis, stroke, and cardiovascular diseases.

In normal physiological conditions, thrombin is not present in significant amounts in circulating blood because it is rapidly regulated by anticoagulant mechanisms. Any detectable free thrombin in blood would indicate ongoing coagulation, which can be seen in disseminated intravascular coagulation, sepsis, thrombosis, or other procoagulant states.

ELASA (Enzyme-Linked Aptasorbent Assay) is an aptamer-based detection technique that functions similarly to ELISA but utilizes nucleic acid aptamers instead of antibodies for target recognition. In this format a combination of target specific capture antibody and biotinylated detection aptamer was employed to “sandwich” the analyte. Human Thrombin ELASA kit offers a sensitive and specific approach for thrombin detection, making it a valuable tool in coagulation studies, anticoagulant drug monitoring, and the diagnosis of thrombotic disorders.



Contents

Pre-coated strip microplate (8X12)	96 wells
10X Wash Buffer	50 mL
1X Assay Diluent	50 mL
1X Binding Buffer	30 mL
Recombinant Human Thrombin Standard	1 vial
100X Biotinylated Detection Aptamer	150 μ L
100X HRP-Streptavidin Conjugate	150 μ L
1X One-step TMB Substrate	12 mL
1X Stop Solution	10 mL
Adhesive Plate Covers	1 count

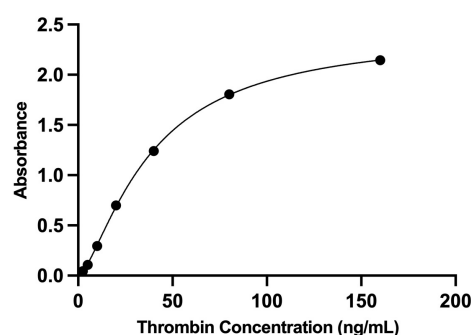
Canada, Europe, Asia, Pacific and Africa

919 Fraser Drive, Unit 11, Burlington, ON Canada L7L 4X8
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Features

The Human Thrombin solid-phase sandwich ELASA is designed to quantify the target analyte “sandwiched” between a capture antibody and a detection aptamer. The microplate wells supplied with the kit are pre-coated with a target-specific antibody. Upon adding the samples, standards, or controls, the target is captured by the immobilized antibody and subsequently binds to the next added detector aptamer.

A secondary enzyme conjugate binds the target attached detector aptamer and a substrate solution reacts with the enzyme-aptamer-target complex to develop a measurable colored end-product which correlates to the concentration of target analyte present in the original sample. See manual for more information on the assay procedure.



Characteristics

Protein name	Thrombin
Alternate names	Coagulation factor II, F2, alpha-thrombin
Species reactivity	Human
Assay format	Solid-phase Sandwich ELASA (quantitative)
Sample type	Serum, Plasma, Cell culture supernatant
Sample volume	100 μ L
Assay length	2 hrs
Analytical sensitivity	<1.4 ng/mL
Assay range	2.5 – 160 ng/mL
Intra-assay CV	<6%
Inter-assay CV	<12%
Recovery (%)	Serum: 101.4 Plasma: 93.3 Cell culture media: 109.8
Detection & Instrument	Colorimetric, Microplate Reader
UniProt ID	(Human) P00734

Validation

Each manufactured lot of this ELASA kit is quality tested for criteria such as sensitivity, specificity, precision, and lot-to-lot consistency. See manual for more information on validation.

United States, Mexico, South and Central America

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Storage

This product should be stored at 2-8°C. Do not freeze. If stored as specified, the ELASA Plates and reagents are stable for at least 6 months.

Precautions and Disclaimer

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization. Please consult the Material Safety Data Sheet available online at www.cytodiagnostics.com for information regarding hazards and safe handling procedures.

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