# Mouse Fibrinogen ELISA Kit ab213478

**Product name**: Mouse Fibrinogen ELISA Kit

**Detection method**: Colorimetric

**Precision**

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA plasma</td>
<td>3</td>
<td></td>
<td>3%</td>
<td></td>
</tr>
</tbody>
</table>

**Sample type**

- Cell culture supernatant, Urine, Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type**: Sandwich (quantitative)

**Sensitivity**: 38 ng/ml

**Range**: 218.75 ng/ml - 14000 ng/ml

**Recovery**

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>102</td>
<td>100% - 104%</td>
</tr>
<tr>
<td>Serum</td>
<td>110</td>
<td>101% - 117%</td>
</tr>
<tr>
<td>Tissue Extracts</td>
<td>88</td>
<td>86% - 90%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>118</td>
<td>112% - 124%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>109</td>
<td>105% - 115%</td>
</tr>
<tr>
<td>Sample type</td>
<td>Average %</td>
<td>Range</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>106</td>
<td>98% - 111%</td>
</tr>
<tr>
<td>Cit plasma</td>
<td>103</td>
<td>98% - 108%</td>
</tr>
</tbody>
</table>

**Assay time**
1h 30m

**Assay duration**
One step assay

**Species reactivity**
Reacts with: Mouse

**Product overview**
Fibrinogen in vitro SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Fibrinogen protein in mouse serum, plasma, urine, cell culture supernatant, and cell and tissue extract samples.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

**Sensitivity:**
- Samples in Sample Diluent NS: 38 ng/mL
- Samples in 1X Cell Extraction Buffer PTR: 41 ng/mL

**Notes**
Fibrinogen is a heterohexamer of molecular mass 340 kDa, made up of two sets of alpha, beta, gamma polypeptide chains, and synthesized in the parenchymal cell of the hepatocyte and in the megakaryocyte. Fibrinogen plays a major role in hemostasis as one of the primary component of coagulation, and both elevated and decreased levels have clinical significance. The conversion of fibrinogen to fibrin is triggered by thrombin, which cleaves fibrinopeptides A and B from alpha and beta chains, and thus exposes the N-terminal polymerization sites responsible for the formation of the soft clot. Upon cleavage by thrombin, Fibrinogen self-assembles to yield a fibrin clot matrix that subsequently is crosslinked by factor Xlla to form an insoluble network. Fibrinogen also binds to the platelet glycoprotein IIb and IIIa receptor so as to form bridges between platelets, thus facilitating aggregation. Elevated plasma Fibrinogen has been identified as an independent risk factor for coronary atherosclerosis and ischemic heart disease. Individuals with congenital absence of Fibrinogen, termed a fibrinogenemia, have prolonged bleeding times. Defects in Fibrinogen, alpha are a cause of amyloidosis type 8 (AMYL8) also known as systemic non-neuropathic amyloidosis or Ostertag-type amyloidosis.

**Platform**
Pre-coated microplate (12 x 8 well strips)

**Properties**

**Storage instructions**
Store at +4°C. Please refer to protocols.
<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Mouse Fibrinogen Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Mouse Fibrinogen Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Wash Buffer PT (ab206977)</td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>50X Cell Extraction Enhancer Solution (ab193971)</td>
<td>1 x 1ml</td>
</tr>
<tr>
<td>5X Cell Extraction Buffer PTR (ab193970)</td>
<td>1 x 10ml</td>
</tr>
<tr>
<td>Antibody Diluent 5BR</td>
<td>1 x 6ml</td>
</tr>
<tr>
<td>Mouse Fibrinogen Lyophilized Recombinant Protein</td>
<td>2 vials</td>
</tr>
<tr>
<td>Plate Seals</td>
<td>1 unit</td>
</tr>
<tr>
<td>Sample Diluent NS (ab193972)</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>SimpleStep Pre-Coated 96-Well Microplate (ab206978)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>TMB Development Solution</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>

**Function**
Fibrinogen has a double function: yielding monomers that polymerize into fibrin and acting as a cofactor in platelet aggregation.

**Tissue specificity**
Plasma.

**Involvement in disease**
Defects in FGA are a cause of congenital afibrinogenemia (CAFBN) [MIM:202400]. This is a rare autosomal recessive disorder characterized by bleeding that varies from mild to severe and by complete absence or extremely low levels of plasma and platelet fibrinogen. Note=The majority of cases of afibrinogenemia are due to truncating mutations. Variations in position Arg-35 (the site of cleavage of fibrinopeptide a by thrombin) leads to alpha-dysfibrinogenemias.
Defects in FGA are a cause of amyloidosis type 8 (AMYL8) [MIM:105200]; also known as systemic non-neuropathic amyloidosis or Ostertag-type amyloidosis. AMYL8 is a hereditary generalized amyloidosis due to deposition of apolipoprotein A1, fibrinogen and lysozyme amyloids. Viscera are particularly affected. There is no involvement of the nervous system. Clinical features include renal amyloidosis resulting in nephrotic syndrome, arterial hypertension, hepatosplenomegaly, cholestasis, petechial skin rash.

**Sequence similarities**
Contains 1 fibrinogen C-terminal domain.

**Domain**
A long coiled coil structure formed by 3 polypeptide chains connects the central nodule to the C-terminal domains (distal nodules). The long C-terminal ends of the alpha chains fold back, contributing a fourth strand to the coiled coil structure.

**Post-translational modifications**
The alpha chain is not glycosylated.
Forms F13A-mediated cross-links between a glutamine and the epsilon-amino group of a lysine residue, forming fibronectin-fibrinogen heteropolymers.
About one-third of the alpha chains in the molecules in blood were found to be phosphorylated. Conversion of fibrinogen to fibrin is triggered by thrombin, which cleaves fibrinopeptides A and B from alpha and beta chains, and thus exposes the N-terminal polymerization sites responsible for
the formation of the soft clot. The soft clot is converted into the hard clot by factor XIIIa which catalyzes the epsilon-(gamma-glutamyl)lysine cross-linking between gamma chains (stronger) and between alpha chains (weaker) of different monomers. Phosphorylation sites are present in the extracellular medium.

**Cellular localization**
Secreted.

**Images**

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Mouse Fibrinogen ELISA Kit (ab213478)

Background-subtracted data values (mean +/- SD) are graphed.

Example of mouse Fibrinogen standard curve in Sample Diluent NS.

Example of mouse Fibrinogen standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.
The concentrations of Fibrinogen were measured in duplicates, interpolated from the Fibrinogen standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 1%, plasma (citrate) 10% and plasma (heparin) 1:400. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 6.8 µg/mL in neat serum, 232 µg/mL in neat plasma (EDTA), 146 µg/mL in neat plasma (citrate) and 440 µg/mL in neat plasma (heparin).

The concentrations of Fibrinogen were measured in duplicates, interpolated from the Fibrinogen standard curves and corrected for sample dilution. Undiluted samples are as follows: 3T3L1 (differentiated, 10 days) 25%, liver (5 days) 100% and lung (6 days) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 3.1 µg/mL in neat 3T3L1, 3.1 µg/mL in neat liver and 24 µg/mL in neat lung supernatant samples.

The concentrations of Fibrinogen were measured in duplicate and interpolated from the Fibrinogen standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Fibrinogen concentration was determined to be 2.2 µg/mL in mouse liver cell tissue extract.

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