

**ELISA KIT FOR
RAT LIVER-TYPE FATTY ACID BINDING PROTEIN
(L-FABP, FABP1) also useful for Mouse L-FABP**



Catalog no HK405 (2x 96 determinations)

Description Fatty acid-binding proteins (FABPs) are a class of cytoplasmic proteins that bind long chain fatty acids. FABPs are small intracellular proteins (~13-14 kDa) with a high degree of tissue specificity. They are abundantly present in various cell types and play an important role in the intracellular utilization of fatty acids, transport and metabolism. There are at least nine distinct types of FABP, each showing a specific pattern of tissue expression. Due to its small size, FABP leaks rapidly out of ischemically damaged necrotic cells leading to a rise in serum levels. Ischemically damaged tissues are characterized histologically by absence (or low presence) of FABP facilitating recognition of such areas.

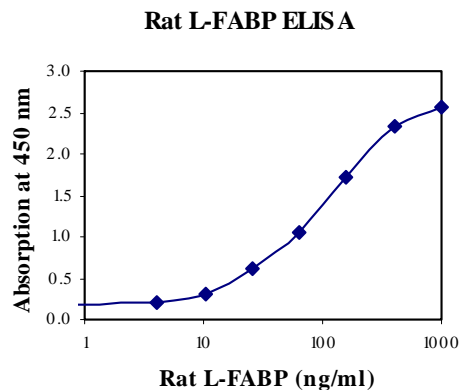
Liver-type fatty acid binding protein (L-FABP, FABP1) is predominantly expressed in liver. The L-FABP protein is derived from the rat *FABP1* gene. L-FABP is a sensitive marker for cell damage of liver cells *in vitro* and *in vivo*. L-FABP is also a marker for rapid hepatocyte lysis *in vitro* (as for example in toxicology assays) and for detection of liver damage during and after transplantation. Serum/plasma and urine of healthy human individuals contains approximately 12 ng/ml and 16 ng/ml L-FABP, respectively.

Aliases FABP1

Application The rat L-FABP ELISA has been developed for the quantitative measurement of natural and recombinant rat L-FABP in cell culture medium, serum, plasma and urine. In serum or plasma samples rat L-FABP can be measured accurately if serum or plasma samples are diluted at least 2 times. Most reliable results are obtained if EDTA plasma is used.

- Features**
- Minimum concentration which can be measured is 4.1 ng/ml.
 - Measurable concentration range of 4.1 - 1,000 ng/ml.
 - Working volume of 100 µl/well.

Typical standard curve



- Principle**
- The rat liver-type FABP ELISA is a ready-to-use solid-phase enzyme-linked immunosorbent assay based on the sandwich principle with a working time of 3½ hours.
 - The efficient format of 2 plates with twelve disposable 8-well strips allows free choice of batch size for the assay.
 - Samples and standards are incubated in microtiter wells coated with antibodies recognizing rat L-FABP.
 - Biotinylated tracer antibody will bind to captured rat L-FABP.
 - Streptavidin-peroxidase conjugate will bind to the biotinylated tracer antibody.
 - Streptavidin-peroxidase conjugate will react with the substrate, tetramethylbenzidine (TMB).
 - The enzyme reaction is stopped by the addition of citric acid.
 - The absorbance at 450 nm is measured with a spectrophotometer. A standard curve is obtained by plotting the absorbance (linear) versus the corresponding concentrations of the rat L-FABP standards (log).
 - The rat L-FABP concentration of samples, which are run concurrently with the standards, can be determined from the standard curve.

Storage and stability Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least six months. After reconstitution the reagents are stable for 1 month if stored at 2-8°C.

Recovery Normal blood samples (plasma), were spiked with rat L-FABP in concentrations of 20 and 2000 ng/ml. Samples

with and without rat L-FABP were incubated for 1 hour at room temperature. Samples were measured by ELISA. Values for rat L-FABP ranged between 102% and 112% (mean 107%).

Cross reactivity Potential cross reacting proteins detected in the rat L-FABP ELISA.

Cross reactant	Reactivity
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Mouse L-FABP	Yes
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Mouse/Rat H-FABP	No
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Mouse/Rat I-FABP	No
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Precautions For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hbt is not responsible for any patent infringements that might result from the use or derivation of this product.

References

1. Landrier, J et al; Statin induction of liver fatty acid-binding protein (L-FABP) gene expression is peroxisome proliferator-activated receptor-alpha-dependent. *J Biol Chem* 2004, 279: 45512

Also available

HK403	Mouse/Rat H-FABP ELISA kit, 2 x 96 determinations
HK404	Human L-FABP ELISA kit, 2 x 96 determinations
HK408	Swine L-FABP ELISA kit, 2 x 96 determinations