Determination of lipase activity involves various procedures:

Determination of lipase activity involves various procedures:

- enzymatic cleavage of the natural substrate;
- enzymatic breakdown of chromogenic and fluorogenic substrates;
- immunological methods (ELISA, latex agglutination).

Nephelometric and turbidimetric turbidimetric techniques based on the cleavage of the natural substrate triacylglycerol are most commonly used . Most lipase enzyme assay kits also contain co-lipase. The turbidimetric determination of lipase activity is based on the clarification of the oil emulsion by the action of lipolytic activity. However, this process can also be influenced by other components of the serum, such as the so-called clarification factor pseudolipase. These are most often circulating IgM type imunokomplexes. For the differential determination of serum pancreatic lipase in addition to pseudolipase using a standard turbidimetric procedure, a procedure based on the inactivation of pseudoplipase by β-mercaptoethanol was developed, which leads to the dissociation of IgM complexes. Newer chromogenic assays are based on an enzyme cascade of lipase that cleaves 1,2-diacylglycerol, glycerol kinase, glycerol-3-phosphate oxidase, and peroxidase with a chromogenic product. A completely new type of technique for the determination of pancreatic lipase is based on changing the conductivity of the solution by releasing fatty acids from the substrate - triolein; it is detected by an acoustic sensor and the measured value is the frequency response.

Normal values

up to 1 μkat / l[1]

Links

Reference

1. Department of Medical Biochemistry and Laboratory Diagnostics, 1st Faculty of Medicine, Charles University in Prague and General University Hospital in Prague. *Lipase* [online]. [cit. 2016-04-07]. <https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>.