

# Lipase/Assessment

Determination of lipase activity includes various procedures:

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

nephelometric and turbidimetric procedures based on the cleavage of the natural substrate triacylglycerol are most often used. Most kits for enzyme determination of lipase also contain co-lipase. The turbidimetric determination of lipase activity is based on the clarification of an oil emulsion by the action of lipolytic activity. However, this process can also be influenced by other serum components, e.g. the so-called clarifying factor pseudolipase. The most common are circulating immunocomplexes of the IgM type. For the differential determination of serum pancreatic lipase in addition to pseudolipase using a standard turbidimetric procedure, a procedure based on the inactivation of pseudolipase with  $\beta$ -mercaptoethanol, which leads to the dissociation of IgM complexes, is developed. Newer chromogenic assays are based on an enzyme cascade of lipase cleaving 1,2-diacylglycerol, glycerol kinase, glycerol-3-phosphate oxidase, and peroxidase with a chromogenic product. A completely new type of pancreatic lipase determination technique 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 quantity is the frequency response.

## Normal values

up to 1  $\mu$ kat/l <sup>[1]</sup>

## Links

- ws:Lipáza/stanovení

## References

1. {{#switch: web |book = *Incomplete publication citation*. Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of Charles University in Prague and General University Hospital in Prague. Also available from <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>. |collection = *Incomplete citation of contribution in proceedings*. Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of Charles University in Prague and General University Hospital in Prague. Also available from <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>. { { #if: |978-80-7262-438-6} } |article = *Incomplete article citation*. Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of Charles University in Prague and General University Hospital in Prague. Lipase. also available from <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>. |web = Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of 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>>. |cd = Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of Charles University in Prague and General University Hospital in Prague. *Lipase* [CD/DVD]. [cit. 2016-04-07]. |db = *Incomplete database citation*. *Lipase* [database]. [cit. 2016-04-07]. <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>. |corporate\_literature = *Incomplete citation of company literature*. Department of Medical Biochemistry and Laboratory Diagnostics of the 1st Faculty of Medicine of Charles University in Prague and General University Hospital in Prague. Also available from <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>. legislative\_document = *Incomplete citation of legislative document*. Also available from URL <<https://ulbld.lf1.cuni.cz/seznam-lab-vysetreni?vysetreni=1086>>.