



## ELISA 【Sample Type : Human】

Product Code	Product Name	Measurement Range	Application				
			Serum	EDTA-Plasma	EDTA-Plasma (Postheparin)	Heparin -Plasma	Super-natant
27180	<a href="#">Human Serum HTGL Assay Kit - IBL</a>	0.08 ~ 5 ng/mL	○	○	○	-	-
27179	<a href="#">Human GPIHBP1 Assay Kit - IBL</a>	7.8 ~ 500 pg/mL	○	○	-	-	-
27182	<a href="#">Human EL Full-Length Assay Kit - IBL</a>	31.25 ~ 2000 pg/mL	○	○	○	-	○
27263	<a href="#">Human EL C-Terminal Assay Kit - IBL</a>	0.13 ~ 8 ng/mL	○	○	○	-	-
27191	<a href="#">Human ApoA5 Assay Kit - IBL</a>	0.31 ~ 20ng/mL	○	○	-	-	-
27181	<a href="#">Human ApoB-100 Assay Kit - IBL</a>	0.13 ~ 8.4 μg/mL	○	○	-	-	○
27745	<a href="#">Human ANGPTL2 Assay Kit - IBL</a>	0.05 ~ 3.5 ng/mL	○	○	-	-	○
27750	<a href="#">Human ANGPTL3 (h.s) Assay Kit - IBL</a>	0.47 ~ 30 ng/mL	○	○	-	-	○
27749	<a href="#">Human ANGPTL4 Assay Kit - IBL</a>	23.44 ~ 1500 pg/mL	○	○	-	-	-
27795	<a href="#">Human ANGPTL8 Assay kit - IBL</a>	0.61 ~ 80 pmol/L	○	○	-	-	○

## Others 【Sample Type : Human】

Product Code	Product Name	Measurement Range	Application				
			Serum	EDTA-Plasma	EDTA-Plasma (Postheparin)	Heparin -Plasma	Super-natant
27185	<a href="#">LPL /HTGL Activity Assay Kit - IBL</a>	HTGL :135 ~ 431 U/L	-	-	○	-	-
27264	<a href="#">LPL /HTGL Activity Control Plus Kit - IBL</a>	LPL : 30 ~ 153 U/L	-	-	○	-	-

Postheparin : Blood samples are collected after administration of the intravenous injection of heparin.



# Lipid Metabolism Assay Kit

*Research for Dyslipidemia and Arteriosclerosis* - Research Use Only -

**HTGL** (hepatic triacylglycerol lipase) has an important role in lipoprotein metabolism as a lipolytic enzyme that hydrolyzes triglycerides (TG) and phospholipids in chylomicron remnants, intermediate-density lipoproteins (IDL) and high-density lipoproteins (HDL). It has been reported that hypercholesterolemia or triglyceridemia is observed and  $\beta$ -very-low-density lipoproteins (VLDL), chylomicron remnants, IDL, TG-rich low-density lipoproteins (LDL) and HDL are accumulated in patients with deficiency of HTGL.

## 【 References 】

1. [A new enzyme-linked immunosorbent assay system for human serum hepatic triglyceride lipase. Miyashita K et al. J Lipid Res. 2017 Jun 20. pii: jlr.M075432.](#)

**EL** (endothelial lipase) is a metabolic enzyme of HDL. It is phospholipase A1 molecule that is high substrate specificity against to phospholipid that exists in high density lipoprotein, HDL molecule and it promotes HDL metabolism through metabolizing HDL phospholipid. It has been considered that EL involves with lipid metabolism and elevating risk of arteriosclerosis as strong expression of EL on newly formed vessel, macrophage in arteriosclerotic lesions is observed while EL expresses in vascular endothelial cells and vascular smooth myocytes of normal blood vessels.

## 【 References 】

1. [Changes in lipoprotein lipase and endothelial lipase mass in familial hypercholesterolemia during three-drug lipid-lowering combination therapy. Tada H et al. Lipids Health Dis. 2016 Apr 2;15:66.](#)  
2. [ELISA system for human endothelial lipase. Ishida T, Miyashita K et.al. Clin Chem. 2012 Dec;58\(12\):1656-64.](#)  
3. [Plasma activity of endothelial lipase impacts high-density lipoprotein metabolism and coronary risk factors in humans. Sun L et.al. J Atheroscler Thromb. 2014;21\(4\):313-21.](#)

**LPL** (lipoprotein lipase) is an enzyme involved in the metabolism of triglyceride-rich lipoproteins including chylomicron (CM) and very low-density lipoprotein (VLDL). Secreted LPL mainly binds to heparan sulfate at the luminal surface of the capillary endothelium and hydrolyzes the triglyceride (TG) in triglyceride-rich lipoprotein into fatty acids and monoglycerides. Therefore, deficiency and reduction in activity of LPL are considered one of the important causes of hypertriglyceridemia.

## 【 References 】

1. [Determination of serum lipoprotein lipase using a latex particle-enhanced turbidimetric immunoassay with an automated analyzer. Machida T et al. Clin Chim Acta. 2015 Mar 10;442:130-5.](#)  
2. [A novel method for measuring human lipoprotein lipase and hepatic lipase activities in postheparin plasma. Imamura S et al. J Lipid Res. 2008 Jul;49\(7\):1431-7.](#)

**GPIHBP1** (Glycosylphosphatidylinositol anchored high density lipoprotein binding protein 1) is an anchor protein that is modified by glycolipid and it has been known that it exists on a capillary endothelial cell membrane and involves with metabolism of triglyceride rich (TG-rich) lipoprotein (triglyceride). GPIHBP1 transports lipoprotein lipase (LPL) that is synthesized and secreted by adipocyte or skeletal muscle cells into capillary lumen and moors on the surface of endothelial cells. It has been revealed that GPIHBP1 has a significantly important role in TG-rich lipoprotein metabolism as it has been considered that gene mutation of GPIHBP1 is a cause of type 1 hyperlipidemia (high chylomicronemia).

## 【 References 】

1. [An enzyme-linked immunosorbent assay for measuring GPIHBP1 levels in human plasma or serum. Miyashita K et al. J Clin Lipidol. 2018 Jan - Feb;12\(1\):203-210.e1.](#)  
2. [Autoantibodies against GPIHBP1 as a Cause of Hypertriglyceridemia. Beigneux AP et al. N Engl J Med. 2017 Apr 27;376\(17\):1647-1658.](#)

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