AmyJet Scientific
艾美捷科技

Mercodia

糖尿病检测专家

可靠的实验数据源于可靠的检测工具

Reliable detection tools make reliable experiments

稳定性：连续9年批间差小于5%

通过欧盟（CE）《体外诊断医疗器材指令》IVDD98/79/EC
通过《医疗器械质量管理体系 用于法规的要求》ISO 13485
有效期：3年
货期：现货

胰岛素（人/小鼠/大鼠/其他动物）

	Mercodia	某品牌
抗体	单克隆抗体	多克隆抗体
校准品	预制备	需梯度稀释
孵育条件	常温:2小时+15分钟	4度:2小时　常温:30分钟+避光40分钟
洗涤次数	1	2
保质期	3年	1年

Mercodia Ultrasensitive Mouse Insulin ELISA
Cat No. 10-1249-01
Sample volume 25 µL[1]
0.025 – 1.5 µg/L (25 µL[1])

Mercodia Mouse Insulin ELISA
Cat No.10-1247-01/10
Sample volume 10 µL[2]
0.2 – 6.5 µg/L (10 µL[2])

Mercodia Ultrasensitive Rat Insulin ELISA
Cat No. 10-1251-01
Sample volume 25 µL
0.02 – 1.0 µg/L (25 µL)

Mercodia Rat Insulin ELISA
Cat No. 10-1250-01/10
Sample volume 10 µL[2]
0.15 – 5.5 µg/L (10 µL[2])

Mercodia High Range Rat Insulin ELISA
Cat No. 10-1145-01/10
Sample volume 10 µL
3.0 – 150 µg/L (10 µL)

Mercodia Rat/Mouse Insulin FIA
Cat No. 10-1248-10
Sample volume 10 µL
0.15 – 100 µg/L (10 µL)

[1] **Note: 10 µL application available, TN34-0132**　[2] Note: 5 µL application available, TN34-0130

Human insulin ELISA kit	10-1113-01	0.13 - 8.70 µg/L
Human ultrasensitive insulin ELISA kit	10-1132-01	0.0065 - 0.87 µg/L
Mouse insulin ELISA kit	10-1247-01	0.2-6.2 µg/L
Mouse ultrasensitive insulin ELISA kit	10-1249-01	0.025-1.5 µg/L
Rat insulin ELISA kit	10-1250-01	0.15-5.5 µg/L
Rat ultrasensitive insulin ELISA kit	10-1251-01	0.02-1.0 µg/L

References

Human insulin ELISA kit

Fang, Z. et al. (2019) Single-Cell Heterogeneity Analysis and CRISPR Screen Identify Key β-Cell-Specific Disease Genes.Cell Rep.IF 7.815
Rayner, C. K. et al. (2018) Comparative effects of proximal and distal small intestinal administration of metformin on plasma glucose and glucagon-like peptide-1, and gastric emptying after oral glucose, in type 2 diabetes.Diabetes, Obes. Metab.IF 6.36
Levet, S. et al. (2017) An ancestral retroviral protein identified as a therapeutic target in type-1 diabetes.JCI insight.IF 6.27

Human ultrasensitive insulin ELISA kit

Veluthakal, R. et al. (2018) Restoration of glucose-stimulated Cdc42-PAK1 activation and insulin secretion by a selective Epac activator in type 2 diabetic human islets.Diabetes.IF 7.199
Bojar, D., Scheller, L., Hamri, G. C.-E., Xie, M. & Fussenegger, M. (2018) Caffeine-inducible gene switches controlling experimental diabetes.Nature Communications.IF 11.878

Mouse insulin ELISA kit

Fischer, C. et al. (2017). A miR-327-FGF10-FGFR2-mediated autocrine signaling mechanism controls white fat browning. Nature Communications, 8(1), 2079.IF 12.555
Kleiner, S. et al. (2018). Mice harboring the human SLC30A8 R138X loss-of-function mutation have increased insulin secretory capacity.National Academy of Sciences of the United States of America.IF 9.58
Figueiredo, H. et al. (2019). Targeting pancreatic islet PTP1B improves islet graft revascularization and transplant outcomes.Science Translational Medicine.IF 17.161

Mouse ultrasensitive insulin ELISA kit

Huang, Y. et al. (2019). lncRNA Gm10451 regulates PTIP to facilitate iPSCs-derived β-like cell differentiation by targeting miR-338-3p as a ceRNA.Biomaterials.IF 9.669
Hunter, R. W. et al. (2018). Metformin reduces liver glucose production by inhibition of fructose-1-6-bisphosphatase. Nature Medicine, 24(9), 1395–1406. IF 27.363
Chakravarthy, H. et al. (2017). Converting Adult Pancreatic Islet α Cells into β Cells by Targeting Both Dnmt1 and Arx. Cell Metabolism, 25(3), 622–634.IF 22.415

Rat insulin ELISA kit

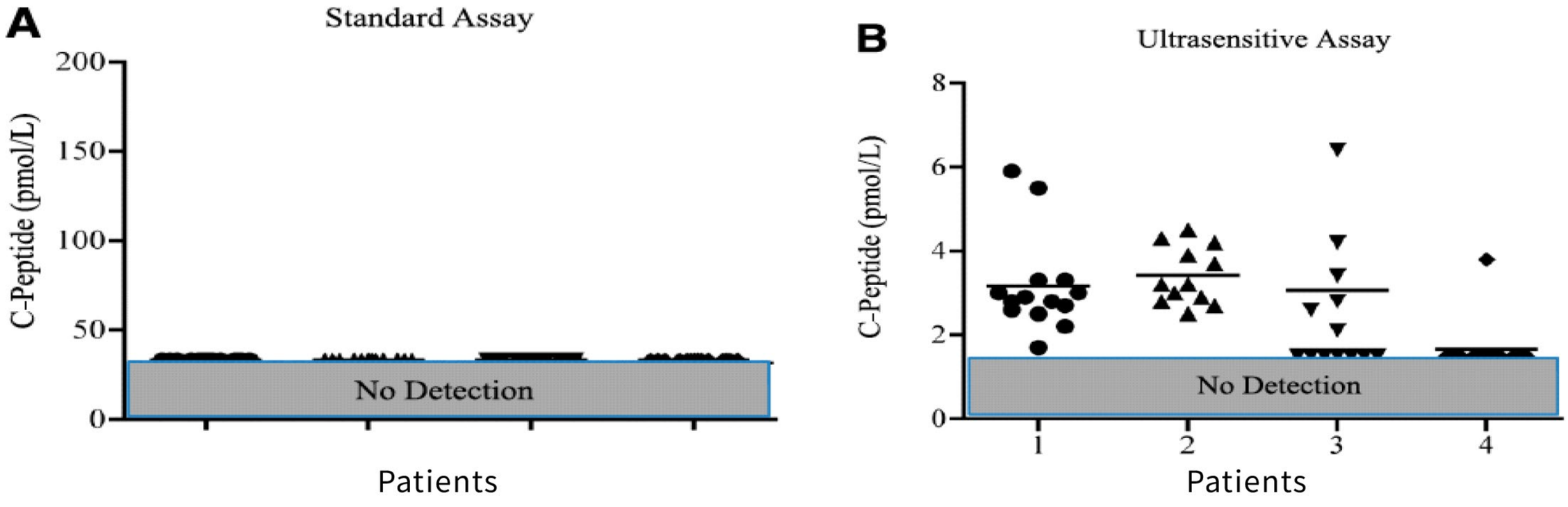
Henaoui, I. S., Jacovetti, C., Guerra Mollet, I., Guay, C., Sobel, J., Eliasson, L., & Regazzi, R. (2017). PIWI-interacting RNAs as novel regulators of pancreatic beta cell function.Diabetologia.IF 7.518
Ghiasi, S. M. et al. (2019). Endoplasmic reticulum chaperone glucose-regulated protein 94 is essential for proinsulin handling.Diabetes.IF 7.199
Haythorne, E. et al. (2019). Diabetes causes marked inhibition of mitochondrial metabolism in pancreatic β-cells. Nature Communications, 10(1), 2474. IF 11.878

Rat ultrasensitive insulin ELISA kit

Singh, H., Ajumeera, R., Malakapalli, V., Chalasani, M., Pothani, S., & Venkatesan, V. (2017). WNIN Mutant Obese Rats Develop Acute Pancreatitis With the Enhanced Inflammatory Milieu. Cellular and Molecular Medicine Research, 1(1), 20–31.IF 4.486
Lin, P. et al. (2019). Dietary Glycotoxins , Advanced Glycation End Products , Inhibit Cell Proliferation and Progesterone Secretion in Ovarian Granulosa Cells and Mimic PCOS-Like Symptoms. Biomolecules, 9(327), 1–17.IF 4.082

超敏C肽/胰岛素原

C肽检测值用于临床治疗评估1型糖尿病患者内源性胰岛素分泌量残存和是否升高是最合适、最主要的依据。
Mercodia超敏C肽检测试剂盒是市场上检测C肽最为灵敏的试剂盒



1型糖尿病患者样本C肽浓度极低，用普通的试剂盒难以检测，Mercodia超敏C肽检测试剂盒可以检测低浓度样本

Wang,L.et a/.Persistence of prolonged C-peptide production in type 1 diabetes as measured with an ultrasensitive C-peptide assay.Diabetes Care 35,465-470(2012)

Human C-peptide ELISA kit	10-1136-01	0.302 - 12.1 µg/L
Human ultrasensitive C-peptide ELISA kit	10-1141-01	0.015 – 0.85 ng/mL
Rat C-peptide ELISA kit	10-1172-01	0.33 - 13.0 µg/L
Porcine C-peptide ELISA kit	10-1256-01	20.0-1200.0 pmol/L
Human proinsulin ELISA kit	10-1118-01	0.03 - 1.18 µg/L
Rat/Mouse proinsulin ELISA kit	10-1232-01	3.5-200.0 pmol/L

References

Human C-peptide ELISA kit

Kondo, Y. et al. (2017) Identification of a small molecule that facilitates the differentiation of human iPSCs/ESCs and mouse embryonic pancreatic explants into pancreaticendocrine cells. Diabetologia 60, 1454–1466. IF 7.518
Honsek, C. et al. (2018) Fibre supplementation for the prevention of type 2 diabetes and improvement of glucose metabolism: the randomised controlled Optimal Fibre Trial (OptiFiT). Diabetologia 61, 1295–1305. IF 7.518

Human ultrasensitive C-peptide ELISA kit

Furuyama, K. et al. (2019) Diabetes relief in mice by glucose-sensing insulin-secreting human α-cells. Nature.IF 37.06
Luk, A. O. Y. et al. (2019) Diabetes-related complications and mortality in patients with young-onset latent autoimmune diabetes: A 14-year analysis of the prospective Hong Kong Diabetes register. Diabetes Care.IF 13.397

Rat C-peptide ELISA kit

Gu, L. H. et al. (2015) Immunogenicity of allogeneic mesenchymal stem cells transplanted via different routes in diabetic rats. Cell. Mol. Immunol. 12, 444–455.IF 8.484

Porcine C-peptide ELISA kit

Lee, S. et al. (2019) Enhanced insulin production and reprogramming efficiency of mesenchymal stem cells derived from porcine pancreas using suitable induction medium. Xenotransplantation, 26(1) p. e12451.IF 3.484

Human proinsulin ELISA kit

Ghiasi, S. M. et al. (2019) Endoplasmic reticulum chaperone glucose-regulated protein 94 is essential for proinsulin handling. Diabetes 68, 747–760.IF 13.397
Fischer, C. et al. (2017). A miR-327-FGF10-FGFR2-mediated autocrine signaling mechanism controls white fat browning. Nature Communications, 8(1), 2079.IF 12.353

Rat/Mouse proinsulin ELISA kit

Ghiasi,S.M.etal.(2019)Endoplasmicreticulumchaperoneglucose-regulatedprotein94isessentialforproinsulinhandling.diabetes.IF7.199

Mehta, Z. B. et al. (2016). Changes in the expression of the type 2 diabetes-associated gene VPS13C in the β-cell are associated with glucose intolerance in humans and mice. AM J PHYSIOL-ENDOC M，311(2), E488–E507. IF 11.641

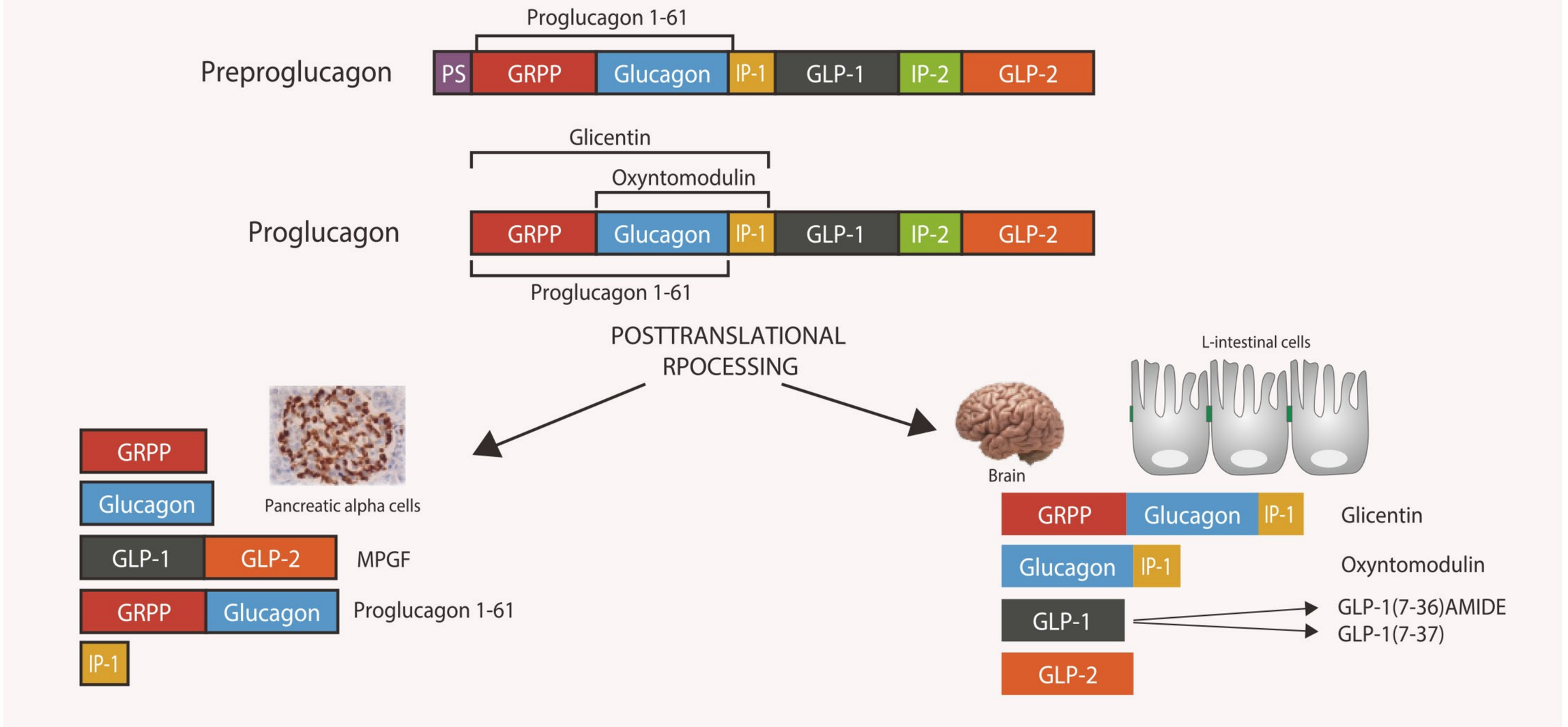
胰高血糖素

检测难点

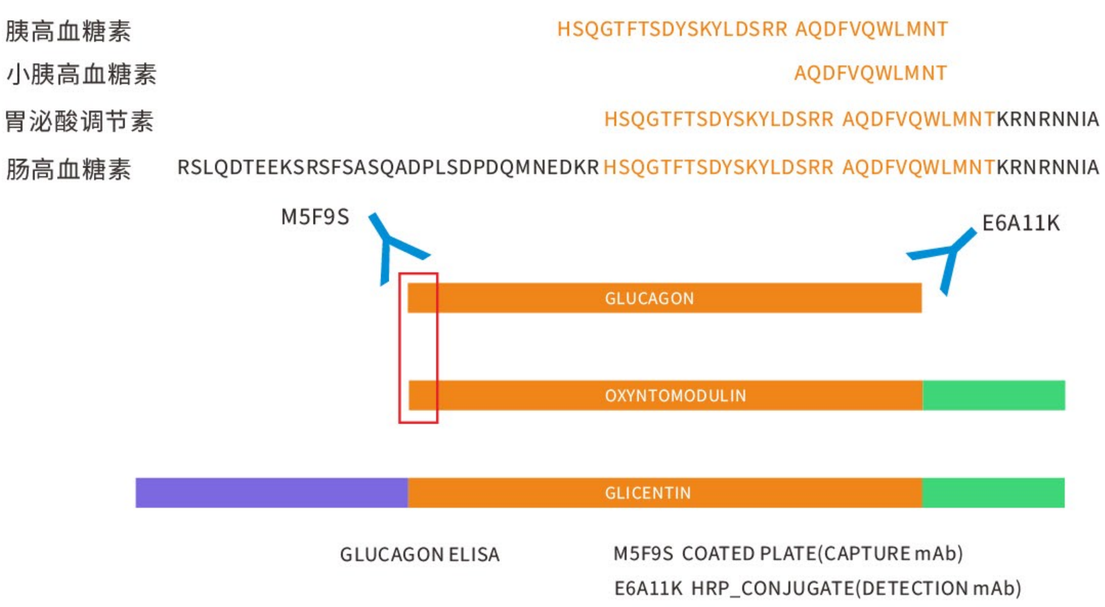
1.肽链短，血清中浓度极低
2.同源衍生物多，容易发生交叉反应
3.体外易水解、易聚集、易氧化

Mercodia试剂盒特点

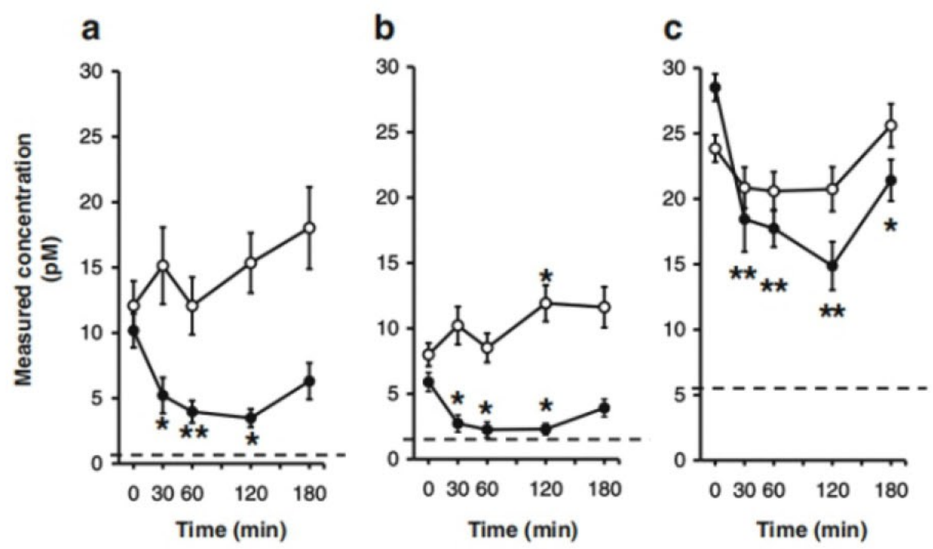
1.灵敏度高
2.双单克隆抗体，高特异性
3.配专用采血管或保护剂



胰高血糖素翻译加工过程中同源衍生物极多



胰高血糖素特异性表位抗体



○：OGTT ●：MTT
a.LC-MS/MS 法 b.Mercodia ELISA 法 c.RIA法与RIA法相比，Mercodia试剂盒的检测值与LC-MS/MS 法更为接近，灵敏度更高

Accurate analytical method for human plasma glucagon levels using liquid chromatography high resolution mass spectrometry: comparison with commercially available immunoassays. Anal Bioanal Chem.DOI 10.1007/s00216-017-0534-0.

Human glucagon ELISA kit	10-1271-01	5.0-414.0 pg/mL
Glucagon 10µL ELISA kit	10-1281-01	7.0-627.0 pg/mL

References

Human glucagon ELISA kit

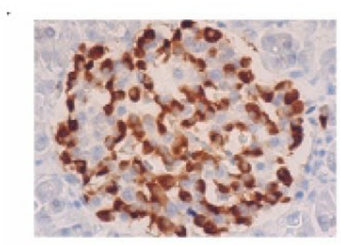
Kahn, S.E. et al. (2021). Hyperglucagonemia Does Not Explain the β-Cell Hyperresponsiveness and Insulin Resistance in Dysglycemic Youth Compared With Adults: Lessons From the RISE Study. Diabetes Care, Jun; dc210460.IF 13.397
Bevacqua, R. J. et al. (2021). CRISPR-based genome editing in primary human pancreatic islet cells. Nature Communications, 12(1), 2397.IF 17.694
Cheng, X. et al. Glucagon contributes to liver zonation. Proc. Natl. Acad. Sci. 115, E4111–E4119 (2018). IF9.421

Glucagon 10µL ELISA kit

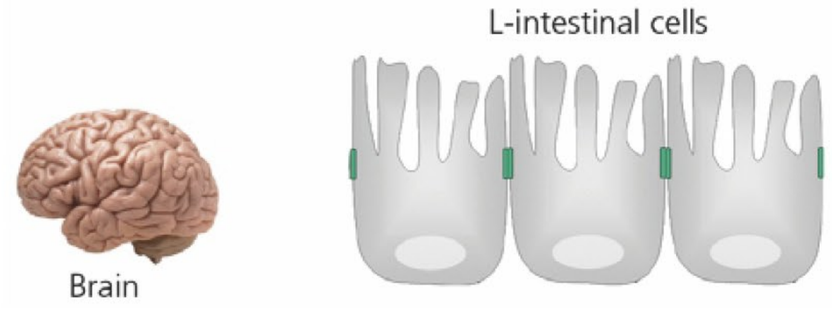
Chae, H., et al. (2020). SGLT2 is not expressed in pancreatic α- and β-cells, and its inhibition does not directly affect glucagon and insulin secretion in rodents and humans. Molecular metabolism, 42, 101071.IF 8.568
Hunter, R. W. et al. (2018). Metformin reduces liver glucose production by inhibition of fructose-1-6-bisphosphatase. Nature Medicine, 24(9), 1395–1406.IF 27.363

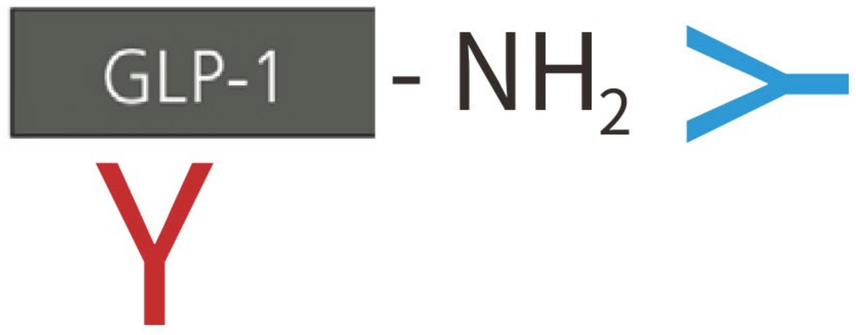
GLP-1

一、在检测GLP-1的时候，应该评估检测方法与MPGF的交叉反应，以确定检测的准确性



Pancreatic alpha cells



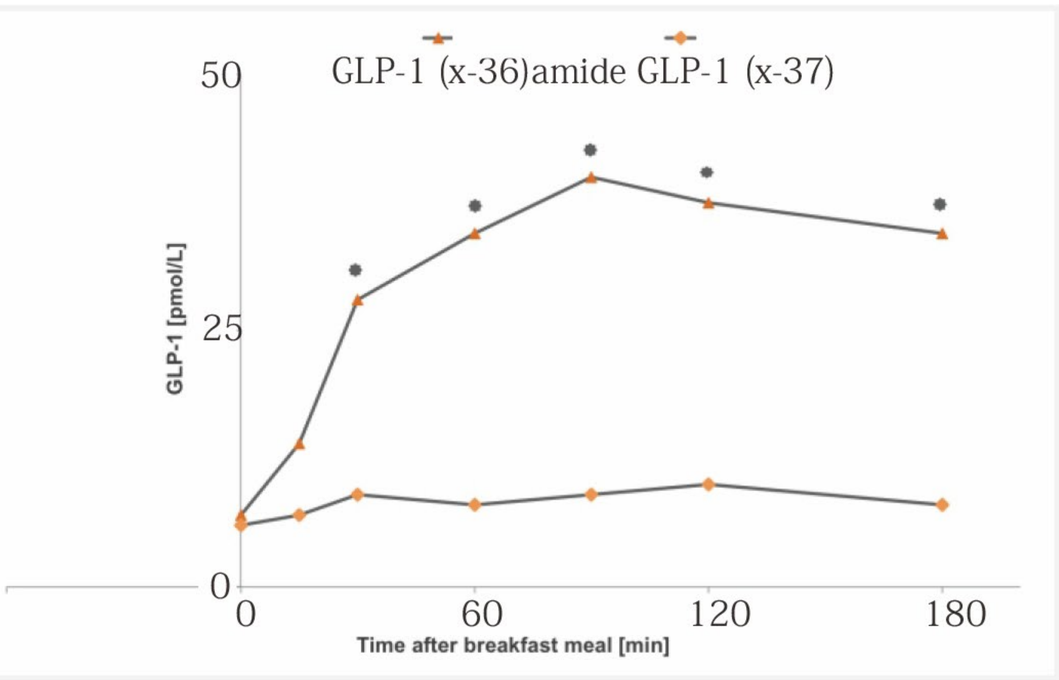


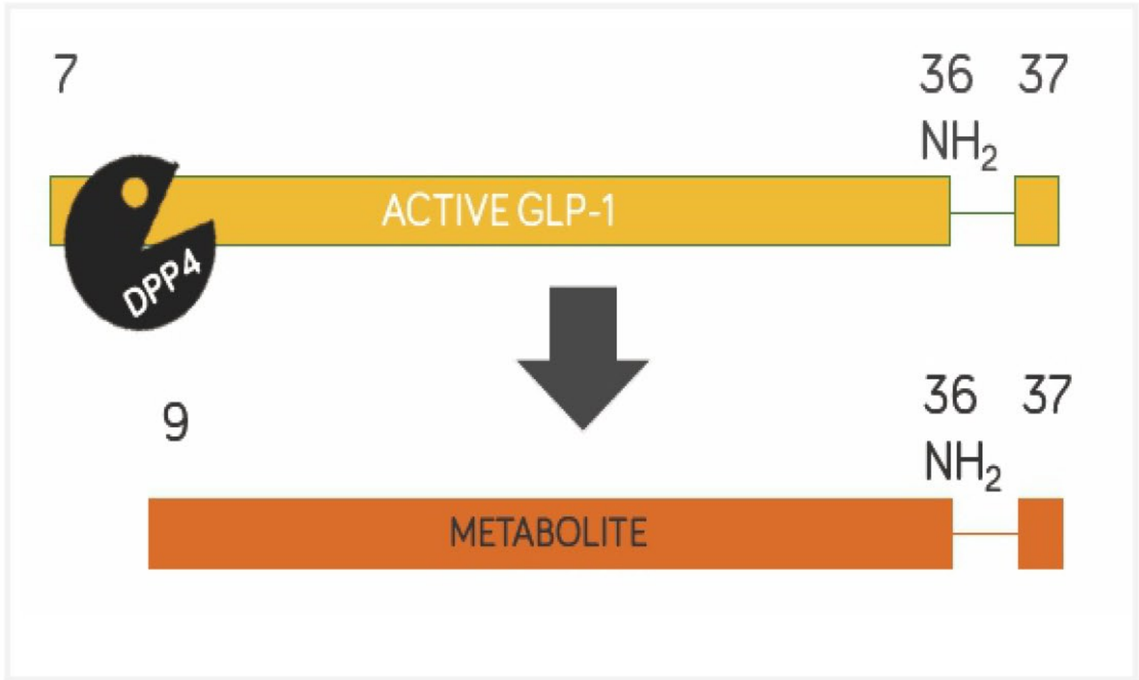
Mercodia GLP-1 NL-ELISA与MPGF无交叉反应

二、检测amidated GLP-1（酰胺化的胰高血糖素样肽-1）的重要性

（1）实验表明，GLP-1（7-36）amide是主要的分泌亚型，餐后血液循环中amidated GLP-1水平显著变化，而GLP-1（7-37）水平保持相对不变。

（2）GLP-1(7-36) amide在血液循环中几分钟后被DPP4降解成GLP-1(9-36) amide，而 GLP-1(9-36)amide有心脏保护等作用。





三、产品参数

检测范围：0.9 - 940.0 pmol/L
检测方法：化学发光法
样 本 量：25ul
检测时间：2h+15min

四、交叉反应率

GLP-1 (1-36)amide	88 %
GLP-1 (7-36)amide	103 %
GLP-1 (9-36)amide	100 %
GLP-1 (1-37)	<0.4 %
GLP-1 (7-37)	<0.4 %
Glucagon	n.d.
MPGF	n.d.

Total GLP-1 NL-ELISA kit	10-1278-01	2.8 - 2940.0 pg/mL

References

Total GLP-1 NL-ELISA kit

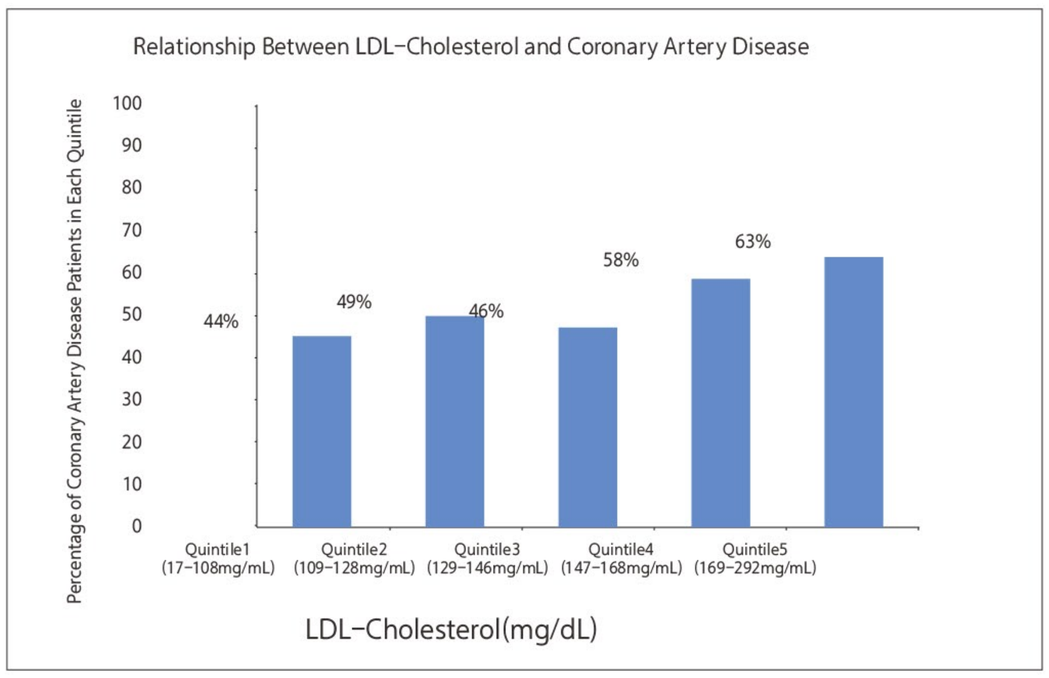
Docherty, K. F. et al. (2021). The Effect of Neprilysin Inhibition on Left Ventricular Remodeling in Patients with Asymptomatic Left Ventricular Systolic Dysfunction Late After Myocardial Infarction.IF 39.918
Vestergaard, E. T. et al. (2021). Acute ketosis inhibits appetite and decreases plasma concentrations of acyl ghrelin in healthy young men. Diabetes, Obesity and Metabolism, 23(8), 1834–1842.IF 6.408
Grevengoed, T. J. et al. (2021). An abundant biliary fatty acid metabolite derived from dietary omega-3 polyunsaturated fatty acids regulates triglycerides.IF 12.812

氧化型低密度脂蛋白（ox-LDL）

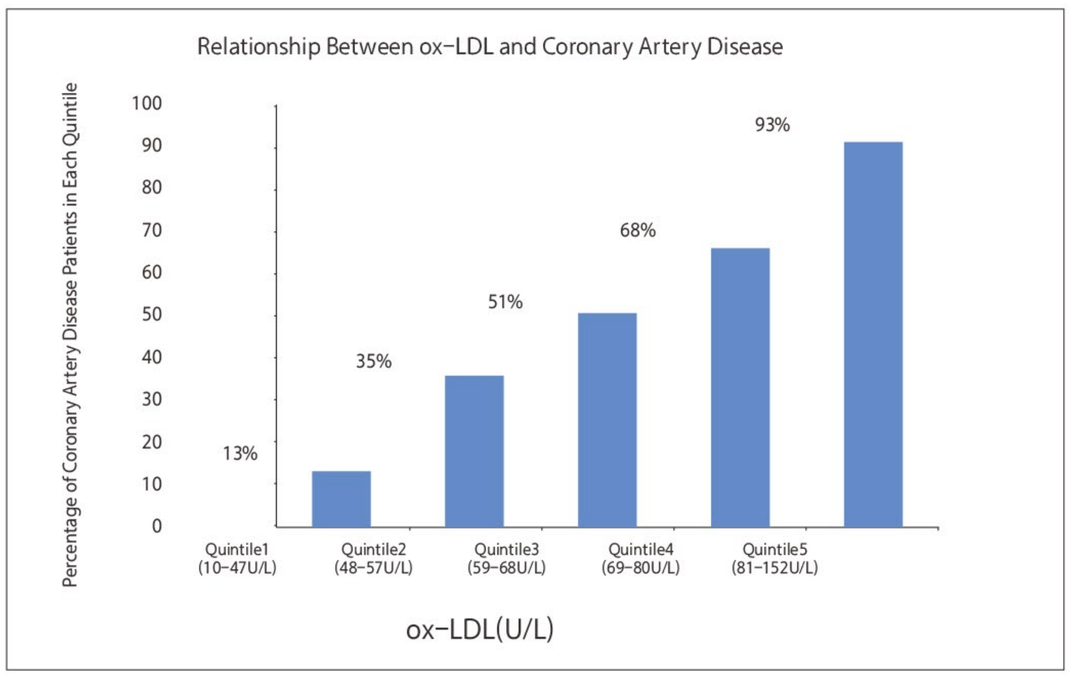
LDL被氧化生成的ox-LDL是动脉粥样硬化发生和发展的关键步骤，是心血管疾病独立的致病因子，检测这个致病性生物标志物对心血管疾病及脂代谢障碍性疾病的预防、监测及早期诊断意义重大

Mercodia 研发的单克隆抗体4E6针对被氧化的LDL标志蛋白Apo B-100的构象表位，该表位是由至少60个Apo B-100赖氨酸残基被醛取代而产生的。

ox-LDL与冠心病密切相关



LDL-c水平的高低与冠心病（CAD）的发病率无显著相关性



ox-LDL水平的高低与冠心病（CAD）的发病率呈正相关关系

Oxidized LDL ELISA	10-1143-01	1.2-22.5 mU/L

References

Soran, H. et al. (2018) A comparison of the effects of low- and high-dose atorvastatin on lipoprotein metabolism and inflammatory cytokines in type 2 diabetes: Results from the Protection Against Nephropathy in Diabetes with Atorvastatin (PANDA) randomized trial. J. Clin. Lipidol. 12, 44–55. IF3.86

Jin, R. et al. (2014) Dietary fructose reduction improves markers of cardiovascular disease risk in Hispanic-American adolescents with NAFLD. Nutrients 6, 3187–3201. IF4.546

Protection of LDL from oxidation by olive oil polyphenols is associated with a downregulation of CD40-ligand expression and its downstream products in vivo in humans.Am J Clin Nutr. IF6.77

同工胰岛素

能够准确检测外源性与内源性胰岛素的总和，能够用于胰岛素类似物药物研发的各个阶段

TRADENAME	ANALOGUE	MERCODIA ISO-INSULIN ELISA(%)	MERCODIA INSULIN ELISA(%)
NovoRapid®	Insulin aspart	100	4.0
Levemir®	Insulin determir	28	< 0.0000009
Lantus®	Insulin glargine	58	24/n.d.*
	Insulin glargine M1	47	n.d.*
	Insulin glargine M2	32	n.d.*
Apidra®	Insulin glargsine	123	< 0.000004
Humalog®	Insulin lispro	112	< 0.000004
Tresiba	degludec	118	n.d.*

n.d.=not detected

Iso-insulin ELISA kit	10-1128-01	0.13 - 4.35 µg/L

References

Regittnig, W. et al. (2019). Insulin Bolus Administration in Insulin Pump Therapy: Effect of Bolus Delivery Speed on Insulin Absorption from Subcutaneous Tissue. Diabetes Technology & Therapeutics IF 4.392
Early pharmacokinetic and pharmacodynamic effects of mixing lispro with glargine insulin: results of glucose clamp studies in youth with type 1 diabete.Diabetes care. IF 8.1
Biodistribution, pharmacodynamics and pharmacokinetics of insulin analogues in a rat model: Oral delivery using pH-Responsive nanoparticles vs. subcutaneous injection.Biomaterials. IF 7.4
Systemic delivery of insulin via the nasal route using a new microemulsion system: In vitro and in vivo studies.J Control Release IF 5.7

赖脯胰岛素

赖脯胰岛素检测试剂盒是Mercodia于2019年研发成功上市的商用试剂盒，现已被国内外各大制药企业、CRO公司广泛用于相关药物研发

特异性

Mercodia Lispro NL-ELISA 不与天然胰岛素、天然胰岛素原和常见的胰岛素类似物发生交叉反应

Substance	Concentration intervall	Cross-reactivity*	Interference Acceptence criteria 100 ± 25 %	
			LLOQ(Recovery %)	ULOQ(Recovery %)
Native Human Insulin	50–400 mU/L	N.D	105–112 %	97–114 %
Native Human Proinsulin	50–300 pmol/L	N.D	104–113 %	103–110 %
Glargine	50–600 mU/L	N.D	96–117 %	89–107 %
Glargine M1	50–600 mU/L	N.D	98–105 %	100–107 %
Glargine M2	50–600 mU/L	N.D	104–123 %	109–115 %
Degludec	50–600 mU/L	N.D	101–113 %	103–109 %
Detemir	50–600 mU/L	N.D	107–116 %	108–110 %
Insulin NHP	50–600 mU/L	N.D	106–116 %	102 – 108 %
Aspart	50–600 mU/L	N.D	95–111 %	101 – 106 %
Glulisine	50–600 mU/L	N.D	101–112 %	99–103 %

*N.D =Not detected

lispro ELISA kit	10-1291-01	0.13 - 4.35 µg/L

References

An ultrafast insulin formulation enabled by high-throughput screening of engineered polymeric excipients.Science Translational Medicine .IF 16.304
A co-formulation of supramolecularly stabilized insulin and pramlintide enhances mealtime glucagon suppression in diabetic pigs.Nature Biomedical Engineerin.IF 18.952

其他主要产品

产品名称	货号	检测范围
Glicentin ELISA（肠高血糖素检测试剂盒）	10-1273-01	24.0-2400.0 pg/mL
High Range Rat Insulin ELISA（大鼠宽线性胰岛素检测试剂盒）	10-1145-01	3.0-150.0 µg/L
Rat/Mouse Insulin FIA 10-pack（大鼠/小鼠胰岛素荧光免疫测定试剂盒10盒）	10-1248-10	0.15-100.0 µg/L
Porcine Insulin ELISA（猪胰岛素检测试剂盒）	10-1200-01	0.02-1.5 µg/L
Bovine Insulin ELISA（牛胰岛素检测试剂盒）	10-1201-01	0.05-3.0 µg/L
Ovine Insulin ELISA（羊胰岛素检测试剂盒）	10-1202-01	0.05-3.0 µg/L
Canine Insulin ELISA（狗胰岛素检测试剂盒）	10-1203-01	0.02-1.5 µg/L
Equine Insulin ELISA（马胰岛素检测试剂盒）	10-1205-01	0.02-1.5 µg/L
Feline Insulin ELISA（猫胰岛素检测试剂盒）	10-1233-01	10.0-700.0 ng/mL
Lp(a) ELISA（脂蛋白a检测试剂盒）	10-1106-01	0.3-5.0 U/L
MPO ELISA（髓过氧化物酶检测试剂盒）	10-1176-01	3.0-200.0 µg/L
Leptin ELISA（瘦素检测试剂盒）	10-1199-01	0.10-5.0 ng/mL
Diabetes Sample Buffer（样本稀释液）	10-1195-01	
Diabetes Antigen Control-Human L and H(人胰岛素质控品)	10-1164-01	
Diabetes-antigen Control Rat/Mouse L, M ,H（大小鼠胰岛素质控品）	10-1220-01	
Animal Insulin Control L, M, H（动物胰岛素质控品）	10-1221-01	
Obesity Control-Human A, B, C(肥胖人质控品）	10-1241-01	
Glucagon Control（胰高血糖素质控品）	10-1286-01	

AmyJet Scientific 艾美捷科技

武汉艾美捷科技有限公司
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