

Diabetes and Obesity Research

Contents

Rat Glucagon ELISA Kit <i>wako</i>	1
Rat GLP-1 ELISA Kit <i>wako</i>	1
Rat C-Peptide ELISA Kit <i>wako</i>	2
Rat Leptin ELISA Kit <i>wako</i>	2
Leptin, Mouse, recombinant.....	2
Aldose Reductase, and the Inhibitors.....	3
Sorbitol Dehydrogenase.....	3
Flavonoids.....	4
Betacellulin.....	5
Reagents for Construction of Diabetes Model.....	5
HMG-CoA Reductase Inhibitors.....	6
Others.....	6
Alphabetical Index.....	7



Wako



Rat Glucagon ELISA Kit *wako*

Cat. #297-57101 96 tests
2-10°C

Glucagon is known as a hormone secreted from the pancreas and intestines. This kit aims at measurement of rat Glucagon peptide secreted from pancreatic α -cells by competitive format. Pancreatic Glucagon plays a important role in regulating sugar levels by elevating sugar in the blood, together with insulin.

[Principle]

Mixture of biotinylated rat Pancreatic Glucagon and that in the sample or the standard material binds to rabbit antibody specific to rat Pancreatic Glucagon coated on the microplate well surface in competitive fashion. Sequential reaction with HRP-conjugated streptavidin results in a formation of HRP-streptavidin-biotin-antibody complex in the well, which catalyzes hydrogen peroxide, generating color by oxidation of an acceptor substrate.

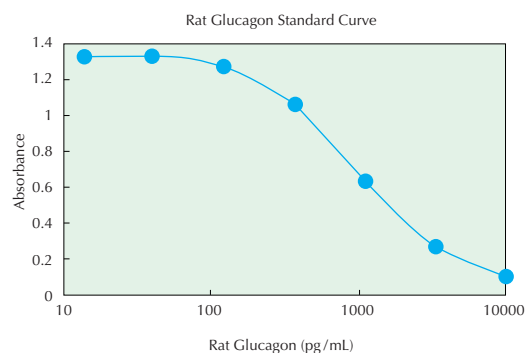
Dynamic range : 50 ~ 10,000 pg/mL

Cross-reactivity

Specific to rat, mouse and human pancreatic Glucagon, but not cross-reactive to intestinal Glucagon nor Glucagon-like peptides as GLP-1 and GLP-2.

[Kit Contents (96 tests)]

1. Antibody-coated Microtiter Plate (Anti Rat Glucagon, Rabbit)	1 plate
2. Rat Glucagon Standard	10 ng
3. Biotinylated Rat Glucagon	for 6 mL
4. HRP-conjugated Streptavidin	12 mL
5. Chromogen (OPD Tablet)	2 tablets
6. Chromogen Diluent Solution	26 mL
7. Buffer A	10 mL
8. Buffer B	15 mL
9. Wash Stock Solution (20 ×)	50 mL
10. Stop Solution (1 mol/L H ₂ SO ₄)	12 mL
11. Adhesive Plate Cover	4 covers



Rat GLP-1 ELISA Kit *wako*

Cat. #291-59201 96 tests
2-10 °C

Glucagon-like peptide-1 (GLP-1) is an incretin hormone, which is synthesized in intestinal endocrine cells. This peptide is known to increase insulin secretion by glucose stimulation and suppress glucagon secretion. The kit is applicable to measure rat, mouse and human GLP-1.

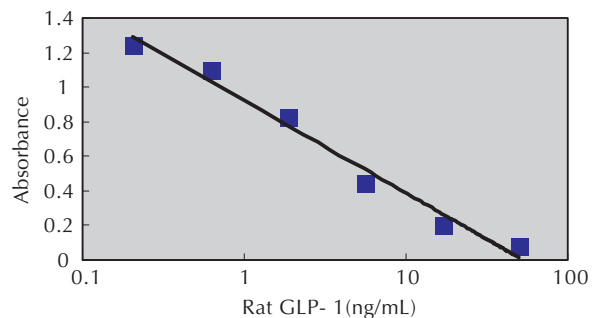
[Kit Contents]

1. Antibody-coated Microtiter Plate (Anti Rabbit IgG, Goat)	1 plate
2. Rat GLP-1 Standard	25 ng
3. Biotinylated Rat GLP-1	For 6 mL
4. Anti Rat GLP-1, Rabbit	6 mL
5. HRP-conjugated Streptavidin	200 μ L
6. HRP-conjugated Streptavidin Diluent	12 mL
7. Chromogen (OPD Tablet)	2 tablets
8. Chromogen Diluent Solution	26 mL
9. Wash Stock Solution (20 ×)	50 mL
10. Buffer	10 mL
11. Stop Solution	12 mL
12. Adhesive Plate Cover	3 pieces

[Features]

- Sensitivity Dynamic Range :** 206 ~ 50,000 pg/mL
- Reproducibility**
 - Intra-assay C.V.(%) = 5.4 ~ 6.6
 - Inter-assay C.V.(%) = 5.5 ~ 18.9
- Specificity**
Applicable to measure rat, mouse and human GLP-1. Little cross-reactivity exists with rat GLP-2, human GLP-2, human glycentin, and human glucagon.
- Spike recovery:** 89 ~ 110 % (Plasma)
- Sample volume:** 30 μ L

[Standard Curve]





Rat C-Peptide ELISA Kit *wako*

Cat. #295-57401 96 tests

2-10°C

Insulin C-Peptide (InsC-Peptide) is derived from proinsulin by processing in vivo, and released into blood in almost equal molarity to insulin. By measurement of InsC-Peptide in the serum, insulin secretion on pancreatic β cells in insulin-administrated rats and rats bearing antibody to insulin could be monitored.

[Principle]

On the surface of the microplate wells, goat anti rabbit IgG is coated, and when sample is reacted with rabbit anti rat InsC-Peptide and biotinylated rat InsC-Peptide in the well, the goat antibody captures the complex of the rabbit antibody and rat InsC-Peptide formed in competitive reaction. Subsequent reaction with horseradish peroxidases (HRP)-conjugated streptavidin to the complex on the well surface results in labeling of the complex with HRP which generates the signal for the presence of rat InsC-Peptide in the sample.

Dynamic range : 1.56 ~ 50 ng/mL

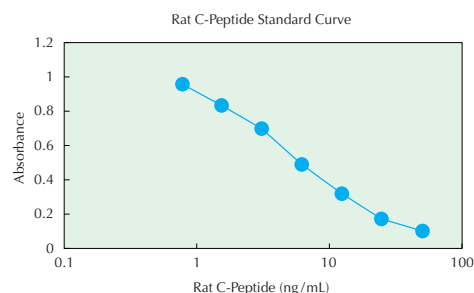
Cross-reactivity

Specific to rat InsC-Peptide.

mouse C-Peptide I (30 %); mouse C-Peptide II (3 %).

[Kit Contents (96 tests)]

1. Antibody-coated Microtiter Plate	1 plate
2. Rat C-Peptide Standard	50 ng
3. Biotinylated Rat C-Peptide	for 8 mL
4. Anti Rat C-Peptide, Rabbit	12 mL
5. HRP-conjugated Streptavidin	12 mL
6. Chromogen (OPD Tablet)	2 tablets
7. Chromogen Diluent Solution	24 mL
8. Wash Stock Solution (20 ×)	50 mL
9. Buffer	35 mL
10. Stop Solution (1 mol/L H ₂ SO ₄)	12 mL
11. Adhesive Plate Cover	3 covers



Rat Leptin ELISA Kit *wako*

Cat. #297-57601 96 tests

2-10°C

Leptin, secreted from fatty cells, is known as a hormone controlling body fat by suppression of eating and increase of energy metabolism. It is reported, however, that expression of leptin gene in fatty tissue and concentration of leptin in blood are at high levels in obese people and model animals of obesity.

[Principle of the assay]

This kit is a sandwich-format of ELISA with two antibodies specific to rat leptin. Monoclonal antibody to leptin is coated on the microplate well, which captures leptin in sample. Following reaction with HRP-conjugated rabbit anti rat leptin antibody, forms HRP labeled antigen-antibody complex on the well, which reports the signal of leptin amount in the sample by chromogenic reaction associated with catalysis of hydrogen peroxide.

Dynamic range :

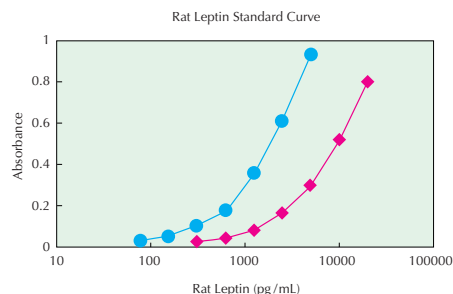
- Samples for serum and plasma : 312.5 ~ 20,000 pg/mL
- Samples for others than serum and plasma : 78.1 ~ 5,000 pg/mL

Cross-reactivity

Specific to rat Leptin, but only slightly cross-reactive to human Leptin.

[Kit Contents (96 tests)]

1. Antibody-coated Microtiter Plate (Anti Rat Leptin, monoclonal antibody)	1 plate
2. Rat Leptin Standard	20 ng
3. HRP-conjugated Antibody, rabbit	6 mL
4. Chromogen (OPD Tablet)	2 tablets
5. Chromogen Diluent Solution	24 mL
6. Wash Stock Solution (20 ×)	50 mL
7. Buffer A	20 mL
8. Buffer B	20 mL
9. Stop Solution (1mol/L H ₂ SO ₄)	12 mL
10. Adhesive Plate Cover	2 covers



Leptin, Mouse, recombinant

Cat. #121-05041 1 mg

-20°C, Lyophilized

Source : Mouse leptin cDNA expressed in *E. coli*.

Form: Lyophilized (sterilized by filtration)

Endotoxin : < 0.1 ng/ μ g (1 EU/ μ g)

Molecular Weight : 16,000

Biological Activity : Leptin, when administered (5 μ g per gram of body weight) once daily for a period of 14 days to obese mouse models (ob / ob. NZO), was proven to be effective in terms of body weight, metabolism, and blood glucose level.

for Cytobiology



Aldose Reductase, Human, recombinant / Sorbitol Dehydrogenase

Although much of the blood glucose enters the cells with the help of insulin, there also exists an alternate route of glucose metabolism which does not use insulin: the polyol pathway. With this polyol metabolizing pathway, aldose reductase converts glucose to sorbitol, which in turn is converted to fructose by sorbitol dehydrogenase. The sorbitol accumulates in cells because of its slow metabolism, and increased osmotic pressure in the cells cause fluid to flow into the cells, resulting in the swelling of these. This is suggested to be the cause of cellular malfunction. The polyol pathway has been reported to play an important role in the retina, lens, kidney, and peripheral nerves, and these enzymes can be used as a useful tool for further studies of diabetic complications. In comparison with commercially available enzyme from sheep liver, sorbitol dehydrogenase shows low reactivity with sugar alcohols such as xylitol, mannitol, and inositol, and exhibits a high substrate specificity toward D-sorbitol, which allows for accurate determination of quantity of sorbitol. in living body.

For Research of Diabetic Complications

Aldose Reductase, Human, recombinant, 95.0+% for Biochemistry

Cat. #547-00581 0.4 units

-20°C, D/I, Liquid

Molecular Weight : Approx. 36,000

Appearance : Dissolved in 5mM DTT, 50% Glycerin solution, and 50mM Na₂HPO₄ buffer solution (pH 7.0)

Specific Activity : 1.5 ± 0.2 units/mg protein

Aldose Reductase catalyzes the reduction of glucose to sorbitol. Sorbitol is subsequently converted to fructose by sorbitol dehydrogenase. These two enzymes are key components of the polyol pathway, the alternate route of glucose metabolism. It is suggested that aldose reductase is involved in the pathogenesis of diabetic complications and the inhibitors continue to be developed at a vigorous pace.

[Reference] 1)Nishimura, C. et al. : *Biochim Biophys. Acta.*, **1078**, 171 (1991).

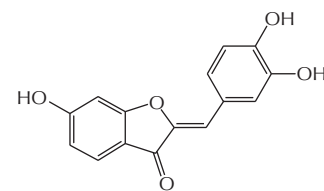
Aldose Reductase Inhibitor

Sulfuretin, 95.0+% for Biochemistry

Cat. #195-12491 20 mg

2-10°C, Solid

Sulfuretin, characterized by aurones, is an old compound in the flavonoid family. Recently, however, its inhibitory effect on aldose reductase was elucidated. Aldose Reductase Inhibitors inhibit accumulation of sorbitol in tissues and therefore are useful in research on preventing diabetic complications including neuropathy, retinopathy, and nephropathy. This product is a synthetic compound.



C₁₅H₁₀O₅ = 270.24

Aldose Reductase Inhibitor

AD-5467 for Biochemistry

Cat. #017-19421 500 mg

2-10°C, Solid

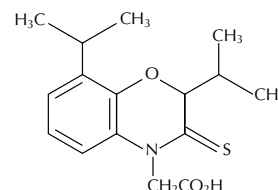
AD-5467 inhibits aldose reductase (IC₅₀ = 51 nmol/l) and platelet aggregation^{1, 2}.

As sorbitol accumulates excessively in tissues and platelet aggregation is increased in diabetic conditions, AD-5467 is useful in research on preventing and treating diabetic complications.

[References]

1) Tawada, H. et al : *Chem. Pharm. Bull.*, **38** (5), 1238 (1990).

2) Sugiyama, Y. et al : *Elsevier Science Publishers BV*, 645 (1990).



C₁₆H₂₁NO₃S = 307.41

For Accurate Quantification of Sorbitol

Sorbitol Dehydrogenase (EC 1.1.1.14) for Biochemistry

Cat. #199-12391 50 units/vial

-20°C, Lyophilized

Sorbitol Dehydrogenase is an essential enzyme involved in polyol metabolism. Sorbitol Dehydrogenase, isolated from microorganisms, is characterized by its high substrate specificity and it degrades D-sorbitol, used as a substrate, into fructose. It is believed that diabetic complications are caused by sorbitol accumulation. The conventional enzymes on the market react with sugars other than sorbitol; however, Sorbitol Dehydrogenase with high substrate specificity enables accurate quantification of sorbitol.

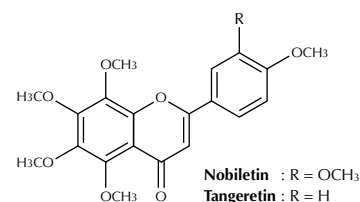
When reacted with typical sugars as substrates including glucose, mannitol, and galactose (at 0.5mol/L concentration) independently or in a mixture, the absorbance did not change, proving high substrate specificity of Sorbitol Dehydrogenase. Sorbitol Dehydrogenase is useful not only in research on aggravation mechanism of complications but also in sorbitol quantification in foods.



Flavonoids

Flavonoids derived from Shekwasha

Nobiletin and tangeretin are polymethoxy flavonoids contained in the juice of Shekwasha, a citrus fruit. These flavonoids are receiving attention for a variety of beneficial effects such as reducing elevation of blood pressure and plasma glucose levels.



[References]

- 1) Rooprai, H. K, *et al.* : *Neuropathol. Appl. Neurobiol.*, **27**(1), 29 (2001).
- 2) Datla, K. P., *et al.* : *Neuroreport*, Dec. 4, **12**(17), 3871 (2001).

Wako Cat. #	Description	Package Size	Physical Data	Solubility	Condition
149-07521	Nobiletin , 95.0+% (HPLC)	10 mg	MW : 402.39 (C ₂₁ H ₂₂ O ₈)	Soluble in methanol	-20°C, Solid
208-15671	Tangeretin , 95.0+% (HPLC)	10 mg	MW : 372.37 (C ₂₀ H ₂₀ O ₇) CAS : 481-53-8	Soluble in methanol	-20°C, Solid

[Related Products] Polyphenols

a. Theaflavins, Black Tea Extracts

Wako Cat. #	Description	Package Size	Appearance	Condition
201-15161	Theaflavin , 90+%	1 mg	Lyophilized	-20°C, D/I
202-15191	Theaflavin-3-gallate , 90+%	1 mg	Lyophilized	
204-15271	Theaflavin-3'-gallate , 90+%	1 mg	Lyophilized	
208-15171	Theaflavin-3,3'-digallate , 90+%	1 mg	Lyophilized	

b. Catechins, green tea extracts

Wako Cat. #	Description	Package Size	Appearance	Condition
059-06751	(-)- Epicatechin , from Green Tea, 98+%	10 mg	Lyophilized	2-10°C
055-06753		50 mg		
052-06741	(-)- Epicatechin Gallate , from Green Tea, 98+%	10 mg	Lyophilized	
058-06743		50 mg		
056-06761	(-)- Epigallocatechin , from Green Tea, 98+%	10 mg	Lyophilized	
052-06763		50 mg		
059-05411	(-)- Epigallocatechin Gallate , 90+%	100 mg	Lyophilized	
032-18231	Catechin Mixture , from Green Tea, 85+%	1 g	Lyophilized	

c. Isoflavones, Soybean extracts

Wako Cat. #	Description	Package Size	Appearance	Condition
013-18801	6"-O-Acetyldaidzin , 90+ %	1 mg	Solid	-20°C, D/I
010-18811	6"-O-Acetylgenistin , 90+ %	1 mg	Solid	
010-18791	6"-O-Acetylglycitin , 90+ %	1 mg	Solid	
040-27741	Daidzin , from Soybean, 98+%	10 mg	Lyophilized	2-10°C
046-27743		100 mg		
043-28071	Daidzein , from Soybean, 98+%	10 mg	Lyophilized	
049-28073		100 mg		
077-04691	Glycitin , from Soybean, 98+%	10 mg	Lyophilized	
073-04693		100 mg		
070-04701	Glycitein , from Soybean, 98+%	10 mg	Lyophilized	
076-04703		100 mg		
070-04681	Genistin , from Soybean, 98+%	10 mg	Lyophilized	
076-04683		100 mg		
546-00171	Genistein , 98+%	20 mg	Lyophilized	
093-04771	Isoflavone (Aglycon) Mixture , Crude, from Soybean, 95+%	1 g	Lyophilized	
132-13821	6"-O-Malonyldaidzin , 90+ %	1 mg	Solid	-20°C, D/I
136-13841	6"-O-Malonylgenistin , 90+ %	1 mg	Solid	
139-13831	6"-O-Malonylglycitin , 90+ %	1 mg	Solid	



Betacellulin

Betacellulin²⁾ is a member of the EGF family, initially isolated from a mouse pancreatic β -cell carcinoma (insulinoma) cell line β TC-3. The mature form of BTC exists as a glycoprotein composed of 80 amino acid residues processed from a 177-residue membrane-bound precursor. Betacellulin induces insulin expression in AR42J rat pancreatic carcinoma cells^{3,4)} and promotes proliferation of fibroblasts, vascular smooth-muscle cells, and retinal pigment epithelial cells.

Betacellulin, Human, recombinant^{2, 5)}

Cat. #025-14381 10 μ g

-20°C, Lyophilized

Appearance : Lyophilized from 100 μ g/mL PBS containing 0.1% BSA

Source : Human betacellulin cDNA expressed in *E. coli*

Molecular weight : 9.1 k (theoretical value calculated from 80 amino acids)

Endotoxin : 0.1 ng/ μ g or less

Betacellulin, Rat, recombinant¹⁾

Cat. #022-14391 10 μ g

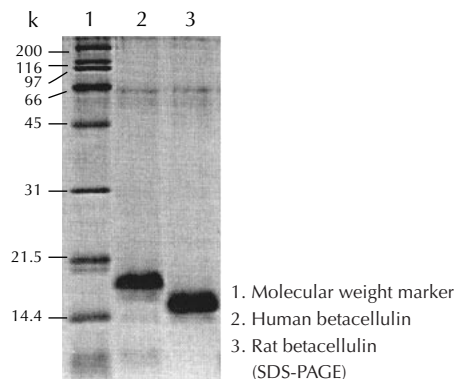
-20°C, Lyophilized

Appearance : Lyophilized from 100 μ g/mL PBS containing 0.1% BSA

Source : Rat betacellulin cDNA expressed in *E. coli*

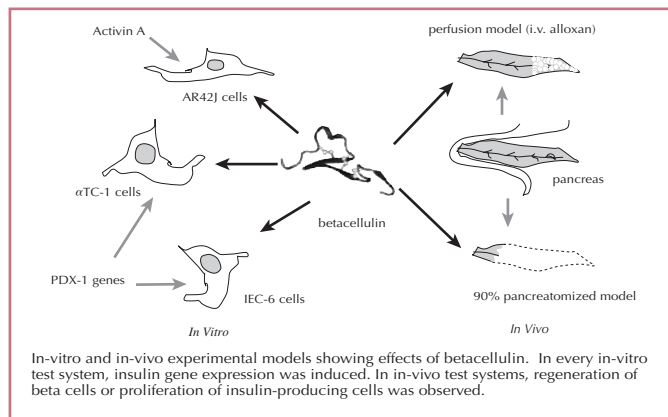
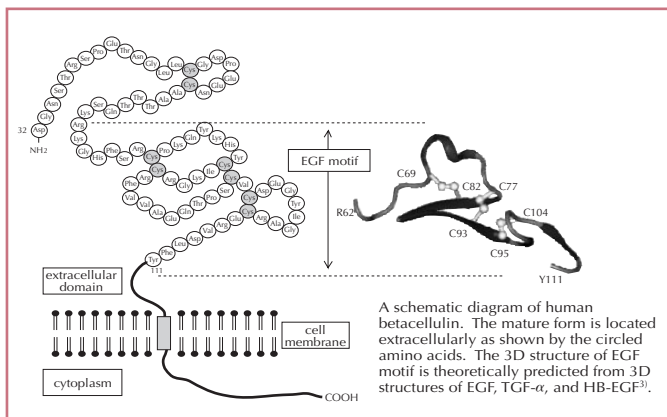
Molecular weight : 9.2 k (theoretical value calculated from 80 amino acids)

Endotoxin : 0.1 ng/ μ g or less



[References]

- 1) Tada, H., Seno, M., Yamada, H., Sasada, R. and Igarashi, K. : *Biochim. Biophys. Acta*, **1492**, 285 (2000).
- 2) Seno, M., Tada, H., Kosaka, M., Sasada, R., Igarashi, K., Shing, Y., Folkman, J., Ueda, M. and Yamada, H. : *Growth Factors*, **13**, 181 (1996).
- 3) Ishiyama, N., Kanzaki, M., Seno, M., Yamada, H., Kobayashi, I. and Kojima, I. : *Diabetologia*, **41**, 623 (1998).
- 4) Mashima, H., Yamada, S., Tajima, T., Seno, M., Yamada, H., Takeda, J. and Kojima, I. : *Diabetes*, **48**, 304 (1999).
- 5) Tada, H., Sasada, R., Kawaguchi, Y., Kojima, I., Gullick, W.J., Salomon, D.S., Igarashi, K., Seno, M. and Yamada, H. : *J.Cell. Biochem.*, **72**, 423 (1999).
- 6) Mashima, H., Ohnishi, H., Wakabayashi, K., Mine, T., Miyagawa, J., Hanafusa, T., Seno, M., Yamada, H. and Kojima, I. : *J.Clin.Invest.*, **97**, 1647 (1996).



For Construction of Diabetes Model

Streptozotocin

for Biochemistry

Cat. #549-00281 100 mg, #545-00283 500 mg

#543-00284 1 g, #549-00286 5 g

2-10°C, Solid

Streptozotocin is an antibiotic isolated from *Streptomyces achromogenes* and possesses specific cytotoxicity on pancreatic β -cells. Streptozotocin is widely used for construction of diabetes animal models.

Appearance : Slightly yellowish powder

Solubility : Soluble in water, ethanol, and acetone

Toxicity : Oral LD₅₀ 264 mg/kg (mouse)



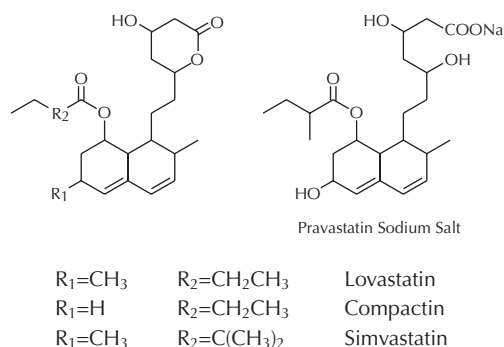
HMG-CoA Reductase Inhibitors

Competitive inhibitors of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase are the rate limiting enzymes in cholesterol biosynthesis. By blocking the conversion of HMG-CoA to the cholesterol precursor mevalonate, these agents inhibit hepatic synthesis of cholesterol, causing a subsequent stimulation of LDL receptors and an increase in the clearance of LDL and its precursor particles from the circulation.

[Reference]

Singer, I. I., et al., *Proc. Natl. Acad. Sci. USA*, **85**, 5264 (1988). / Endo, A., et al., *FEBS LETTERS*, **72**, 323 (1976).

Wako Cat. #	Description	Package Size	Physical Data	Condition
033-17301	Compactin [ML-236B] 95+% (HPLC)	25 mg	MW : 390.51 (C ₂₃ H ₃₄ O ₅) CAS : 73573-88-3 mp : 152°C LD ₅₀ (mus, orl) 2 gm/kg	2~10°C, Solid
125-04581	Lovastatin* 95+% (HPLC)	25 mg	MW : 404.55 (C ₂₄ H ₃₆ O ₅) CAS : 75330-75-5 mp : 174.5°C LD ₅₀ (mus, orl) 1 gm/kg	2~10°C, Solid
193-12051	Simvastatin 95+% (HPLC)	25 mg	MW : 418.57 (C ₂₅ H ₃₈ O ₅)	2~10°C, Solid
199-12053		100 mg		
162-19821	Pravastatin Sodium Salt 95+% (HPLC)	25 mg	MW : 446.51 (C ₂₃ H ₃₅ NaO ₇)	2~10°C, Solid
168-19823		100 mg		



* : Not available for sale in the US.

Others

Resistin, recombinant *Resistin : molecule termed as "Resistin" signifying resistance to insulin*

Resistin, Human Cat. #187-01801 25 µg

Resistin, Mouse Cat. #184-01811 25 µg

-20°C, D/I, Lyophilized

Resistin is a dimeric hormone secreted by mast cells and is attracting attention as a substance which impairs insulin action. TNF-α and free fatty acid are known as resistins.

Serum resistin concentration decreases with administration of antidiabetic drugs and is elevated when obesity occurs. It was also found that administration of resistin-neutralizing substance to obese mice restored serum glucose levels and insulin action. Based on these findings, it is believed that resistin is a key link between obesity and diabetes.

Human resistin

Description : freeze dried from 10 mmol/L sodium citrate (pH 3.0). Filtered and sterilized.

	Human Resistin	Mouse Resistin
Appearance	Lyophilized from the filter sterilized 10 mol/L sodium citrate (pH 3.0)	Lyophilized from the filter sterilized 20 mmol/L Tris (pH 8.0)
Source	Human resistin cDNA expressed in <i>E. coli</i> .	Source : Mouse resistin cDNA expressed in <i>E. coli</i> .
Molecular Weight	19,500	20,200
Endotoxins	< 0.1 ng/µg (1 EU/µg)	< 0.1 ng/µg (1 EU/µg)

[Reference]

1) Steppan, C.M., et al.: *Nature*, **409**, 307 (2001).

Acrp30, globular domain, Mouse, recombinant *Acrp30 : substance which improves insulin resistance*

Cat. #017-19541 25 µg

-20°C, D/I, Lyophilized

Acrp30 is a mouse homologue of adiponectin¹⁾. Adiponectin/Acrp30 is a adipocytokine secreted by adipose tissues. Unlike TNF-α or leptin, the serum levels of Acrp30 is known to decrease as obesity increases. It was recently reported that injection of adiponectin to diabetic mice improved insulin resistance²⁾.

Mouse globular domain is a decomposition product of Acrp30 with molecular weight of 16,000 comprising 145 amino acids³⁾. It is characterized by more potent activity than Acrp30.

Appearance : Lyophilized from the filter sterilized 5 mmol/L Tris (pH 7.6)

Source : Mouse globular domain Acrp30- cDNA expressed in *E. coli*.

Endotoxin : < 0.1 ng/µg (1 EU/µg)

Reconstitution : Dissolve with 5 mmol/L Tris (pH 7.6) to make 0.1~1.0 mg/mL solution.

[Reference]

1) Maeda, K. et al.: *Biochem. Biophys. Res. Commun.*, **221**, 286 (1996).

2) Yamauchi, T. et al.: *Nat. Med.*, **7**, 941 (2001)

3) Scherer, P.E., et al.: *J. Biol. Chem.*, **270**, 26746 (1995).



TMP-153

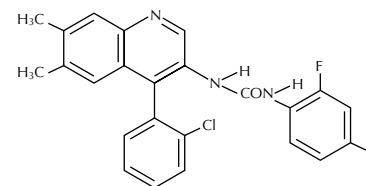
Cat. #207-15641 500 mg

2-10°C, Solid

TMP-153 is an ACAT (acyl-CoA : cholesterol acyltransferase) inhibitor which inhibits cholesterol absorption^{1, 2)}.

[References]

- 1) Tawada, H. *et al* : *J. Med. Chem.*, **37**, 2079 (1994).
- 2) Sugiyama, Y. *et al* : *Atherosclerosis*, **113**, 71 (1995).



C₂₄H₁₈ClF₂N₃O = 437.87

Wako Cat. #	Description	Grade	Package Size
018-18731	Acetohexamide	-	10 g
016-18732			25 g
078-03881	Glibenclamide	for Biochemistry	5 g
076-03882			25 g
071-04731	Gliclazide	for Biochemistry	10 g
079-04732			25 g
202-15211	Tolazamide	for Biochemistry	5 g
200-15212			25 g
018-15291	L-Aminocarnitine	for Biochemistry	10 mg
028-10052	Buformine Hydrochloride	for Biochemistry	25 g
114-00471	Karanjin	for Biochemistry	500 mg
209-09172	Tolbutamide	for Biochemistry	25 g
086-05441	D-3-Hydroxybutyrate Dehydrogenase, from <i>Pseudomonas</i> sp.	for Biochemistry	5 mg
337-43721	Ghreline (Human)	for Peptide	0.1 mg
334-43731	Ghreline (Rat)	for Peptide	0.1 mg
331-43501	CART (Human, 55-102)	for Peptide	0.1 mg
338-43511	CART (Rat, 55-102)	for Peptide	0.1 mg
339-43661	Agouti-related Protein (Human, 86-132)	for Peptide	0.1 mg

ALPHABETICAL INDEX

	page	Description		page	Description
A	7	Acetohexamide	G	4	Glycitin, from Soybean
	4	6 ⁿ -O-Acetylaidizin, from Soybean	H	7	D-3-Hydroxybutyrate Dehydrogenase, from <i>Pseudomonas</i> sp.
	4	6 ⁿ -O-Acetylgenistin, from Soybean	I	4	Isoflavone (Aglycon) Mixture, Crude, from Soybean
	4	6 ⁿ -O-Acetylglycitin, from Soybean	K	7	Karanjin
	6	Acrp 30, globular domain, Mouse, recombinant	L	2	Leptin, Mouse, recombinant
	3	AD-5467		2	Rat Leptin ELISA Kit wako
	7	Agouti-related Protein (Human, 86-132)		6	Lovastatin
	B	3	Aldose Reductase, Human, recombinant	M	4
7		L-Aminocarnitine	4		6 ⁿ -O-Malonylgenistin, from Soybean
C	5	Betacellulin, recombinant, Human/Rat	4		6 ⁿ -O-Malonylglycitin, from Soybean
	7	Buformine Hydrochloride	N	4	Nobiletin
	7	CART (Human, 55-102)/(Rat, 55-102)	P	4	Polyphenols
	4	Catechin Mixture, from Green Tea		6	Pravastatin Sodium Salt
6	Compactin	R		1	Rat GLP-1 ELISA Kit wako
D	2	Rat C-Peptide ELISA Kit wako	2	Rat C-Peptide ELISA Kit wako	
	4	Daidzein, from Soybean	1	Rat Glucagon ELISA Kit wako	
	4	Daidzin, from Soybean	2	Rat Leptin ELISA Kit wako	
E	4	(-)-Epicatechin, from Green Tea	6	Resistin, recombinant, Human/Mouse	
	4	(-)-Epicatechin Gallate, from Green Tea	S	6	Simvastatin
	4	(-)-Epigallocatechin, from Green Tea		3	Sorbitol Dehydrogenase
	4	(-)-Epigallocatechin Gallate, from Green Tea		5	Streptozotocin
F	4	Flavonoids	3	Sulfuretin	
G	4	Genistein, from Soybean	T	4	Tangeretin
	4	Genistin, from Soybean		4	Theaflavin, from Black Tea
	7	Ghreline, Human/Rat		4	Theaflavin-3,3'-digallate, from Black Tea
	7	Glibenclamide		4	Theaflavin-3-gallate, from Black Tea
	7	Gliclazide		4	Theaflavin-3'-gallate, from Black Tea
	1	Rat GLP-1 ELISA Kit wako		7	TMP-153
	1	Rat Glucagon ELISA Kit wako		7	Tolazamide
	4	Glycitin, from Soybean		7	Tolbutamide

- All products are sold for laboratory use only. They are not for use in humans.
- Please visit our online catalog to search for other products from Wako ; <http://search.wako-chem.com>
- This brochure may contain products that cannot be exported to your country due to regulations.
- Bulk quote requests for some products are welcomed. Please contact us.

045031BK

Wako Pure Chemical Industries, Ltd.

<http://www.wako-chem.co.jp>

1-2, Doshomachi 3-Chome
Chuo-Ku, Osaka 540-8605, Japan

Tel: 81-6-6203-3741

Fax: 81-6-6201-5964

Online Cat.: <http://search.wako-chem.com>

Wako Chemicals USA, Inc.

<http://www.wakousa.com>

Head Office:

1600 Bellwood Road, Richmond, VA 23237

Toll-Free (U.S. only): 1-877-714-1920

Tel: 1-804-714-1920/ Fax: 1-804-271-7791

Los Angeles Sales Office:

15625 Alton Parkway, Suite D, Irvine, CA 92618

Tel: 1-949-679-1700/ Fax: 1-949-679-1701

Wako Chemicals GmbH

<http://www.wako-chemicals.de>

Nissanstraße 2, D-41468, Neuss, Germany

Tel: 49-2131-311-0

Fax: 49-2131-311100