

Metabolic Research Compounds

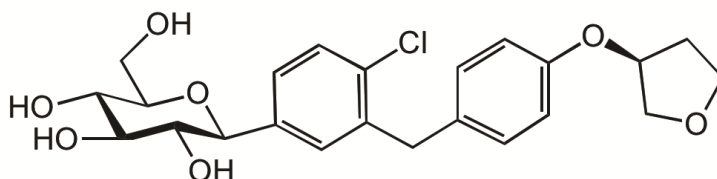
Metabolism is the general term for a series of chemical reactions that occur in an organism to sustain life. These reactions allow organisms to grow, reproduce and respond to the external environment. Metabolic pathways are characterized as a series of enzyme catalyzed reactions where the products of a previous reaction serve as substrates for a subsequent reaction. Understanding these pathways is essential to understanding homeostasis within an organism and the machinery of life. Metabolic disorders, dysregulation or disruption of the body's metabolic pathways can lead to a range of metabolism-related diseases. Such as diabetes, obesity, hypertension, cardiovascular disease, cancer, etc. The incidence of obesity, diabetes and metabolic disorders is rising dramatically in developed countries. Given the ever-increasing prevalence of obesity and our aging population, a better understanding of how our bodies metabolize and store food and the pathologies involved in these processes presents itself as a goal of increasing importance.

Chemical compounds related to metabolic pathways, glucose homeostasis, energy balance, unfolded protein response or ER stress are a useful tool for studying metabolism-related diseases. By utilizing chemical reagents, researchers can gain a comprehensive understanding of metabolic pathways and their significance in health and disease. This knowledge is crucial for developing new drugs, understanding disease mechanisms, and engineering metabolic processes for various applications.

Metabolic Research Compounds Highlights

Empagliflozin

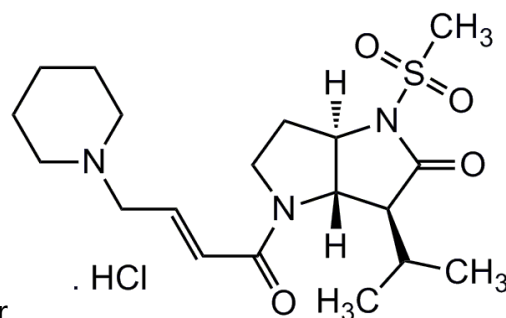
PID: AG-CR1-3619
Formula: C₂₃H₂₇ClO₇
MW: 450.9
CAS: 864070-44-0



Description: Potent and selective SGLT-2 Inhibitor.

GW311616A

PID: AG-CR1-3632
Formula: C₁₉H₃₁N₃O₄S · HCl
MW: 397.5 · 36.5
CAS: 197890-44-1



Description: Potent and selective intracellular HNE Inhibitor.

Metabolic Research Compounds

PRODUCT NAME	PID	CAS	TARGET	ACTIVITY
AK-7	AG-CR1-3511	420831-40-9	SIRT2	Inhibitor
Aloeresin A	AG-CN2-0439	74545-79-2	α -Glucosidase	Inhibitor
3-Aminoisobutyric acid	AG-CR1-3596	214139-20-5	GlyR	Agonist (partial)
Amlexanox	AG-CR1-3579	68302-57-8	TBK1, IKK ϵ	Inhibitor
Andrographolide	CDX-A0576	5508-58-7	GLUTs, TGR5	Modulator
AP-III-a4 . HCl	AG-CR1-3696	1177827-73-4	HNE	Inhibitor
AZD 7545	AG-CR1-3692	252017-04-2	PDK2	Inhibitor
BMS-309403	AG-CR1-3640	300657-03-8	FABP4	Inhibitor
bpV(phen)	AG-CR1-0042	171202-16-7	IRK	Activator
BRS-3 Agonist	AG-CR1-3607	1426294-15-6	Bombesin receptor subtype-3	Agonist
Celastrol	AG-CN2-0460	34157-83-0	Leptin	Sensitizer
Chenodeoxycholic acid	AG-CN2-0410	474-25-9	FXR	Activator
Cinnamtannin B-1	AG-CN2-0428	88082-60-4	ROS	Inhibitor
CL 316,243	AG-CR1-3699	138908-40-4	UCP	Activator
p-Coumaric acid	CDX-C0400	501-98-4	BAT / UCP1 Upregulation	Activator
3,4-Dimethoxychalcone	AG-CN2-0531	5416-71-7	CRM	Modulator
DPVP (Resveratrol Analog)	AG-CR1-3604	1462947-40-5	FAS Expression	Inhibitor
EM574	AG-CN2-0102	110480-13-2	Motilin Receptor	Agonist
Empagliflozin	AG-CR1-3619	864070-44-0	SGLT-2	Inhibitor
Galangin	CDX-G0216	548-83-4	DPP-4	Inhibitor
Glimepiride	CDX-G0208	93479-97-1	KATP channels	Inhibitor
Glyburide (USP)	AG-CR1-3613	10238-21-8	KATP subunit SUR1	Activator
Glycyrrhizic acid . ammonium salt	CDX-G0215	53956-04-0	KAT2 / TGR5	Inhibitor / Activator
3-Guanidinopropionic acid	AG-CR1-3678	353-09-3	PGC-1 α , AMPK	Activator
GW311616A	AG-CR1-3632	197890-44-1	HNE	Inhibitor
20-Hydroxyecdysone	AG-CN2-0072	5289-74-7	TGF- β 1	Inhibitor
Hyperforin . DCHA	AG-CN2-0008	238074-03-8	SIRT1/2	Inhibitor
Indole-3-carbinol	AG-CR1-3637	700-06-1	SIRT1	Activator
Ipragliflozin	AG-CR1-3546	761423-87-4	SGLT-2	Inhibitor

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PRODUCT NAME	PID	CAS	TARGET	ACTIVITY
Isoliquiritigenin	AG-CN2-0459	961-29-5	AMPK-mediated GSK3 β	Inhibitor
Kaempferitrin	AG-CN2-0039	482-38-2	Insulinomimetic	Modulator
Lipofermata	AG-CR1-3542	297180-15-5	FATP1/FATP2	Inhibitor
Lupeol	CDX-L0128	545-47-1	α -Glucosidase	Modulator
Mangiferin	CDX-M0465	4773-96-0	DPP-4	Inhibitor
Miglitol	AG-CR1-3635	72432-03-2	α -Glucosidase / BAT	Inhibitor / Activator
Mildronate dihydrate	CDX-M0558	86426-17-7	Energy Metabolism	Modulator
Narciclasine	AG-CN2-0524	29477-83-6	Energy Metabolism	Modulator
Niclosamide	AG-CR1-3643	50-65-7	Neuropeptide Y4 receptor	Modulator
Niclosamide ethanolamine	AG-CR1-3644	1420-04-8	Neuropeptide Y4 receptor	Modulator
Paeoniflorin	CDX-P0260	23180-57-6	LXR	Agonist
Pellitorine	AG-CN2-0009	18836-52-7	α -Glucosidase	Inhibitor
PF-2545920	AG-CR1-3636	898562-94-2	PDE10A	Inhibitor
Polydatin	CDX-P0596	65914-17-2	SIRT1	Activator
Procyanidin A2	AG-CN2-0486	41743-41-3	ROS	Modulator
Pterostilbene	CDX-P0234	537-42-8	ROS	Modulator
Quercetin . dihydrate	AG-CN2-0409	6151-25-3	SIRT1 / ROS	Activator / Modulator
Rebaudioside A	CDX-R0090	58543-16-1	α -Glucosidase	Inhibitor
Repaglinide	CDX-R0122	135062-02-1	KATP channels	Inhibitor
Resveratrol	AG-CN2-0033	501-36-0	SIRT1	Activator
(R)-Roscovitine	AG-MR-C0001	186692-46-6	Cdk5	Inhibitor
Rutin . trihydrate	AG-CN2-0408	250249-75-3	Insulinomimetic / GLUT4	Modulator / Activator
Salsalate	AG-CR1-3574	552-94-3	IKK β /NF- κ B	Inhibitor
Sekikaic acid	AG-CN2-0502	607-11-4	α -Glucosidase / β -Glucosidase	Inhibitor
Silibinin	CDX-S0276	22888-70-6	ROS	Modulator
Silymarin	CDX-S0289	65666-07-1	ROS	Modulator
Sirtinol	AG-CR1-0055	410536-97-9	SIRT1/2	Inhibitor
Stevioside . hydrate	AG-CN2-0077	57817-89-7	Insulin	Sensitizer

Metabolic Research Compounds

PRODUCT NAME	PID	CAS	TARGET	ACTIVITY
Stigmasterol	AG-CN2-0412	83-48-7	FXR	Antagonist
Suramin . hexasodium salt	AG-CR1-3575	129-46-4	SIRT1/5	Inhibitor
Suramin . sodium salt	AG-CR1-3575V	129-46-4	SIRT1/5	Inhibitor
T0901317	AG-CR1-2906	293754-55-9	LXR α , LXR β , FXR	Activator
D-(-)-Tagatose	CDX-T0101	87-81-0	Glucokinase	Promoter
Talabostat . mesylate	AG-CR1-3541	150080-09-4	DPPs	Inhibitor
Taurine	CDX-T0187	107-35-7	ROS	Modulator
TEPP46 [ML-265]	AG-CR1-3687	1221186-53-3	PKM2	Activator
TG003	AG-CR1-3656	300801-52-9	Clk2 Expression	Inhibitor
Ursolic acid	CDX-U0400	77-52-1	TGR5 / LXRalpha	Activator / Inhibitor
(±)-Verapamil . HCl (USP Grade)	AG-CR1-3627	152-11-4	TXNIP Expression	Inhibitor
Vitexin	AG-CN2-0425	3681-93-4	α -Glucosidase	Inhibitor
Withaferin A	AG-CN2-0490	5119-48-2	Leptin	Sensitizer

Selected other Metabolic Signaling Pathways

[AMPK Signaling](#)

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AMPK Signaling

AMPK (AMP-activated protein kinase) is involved in various physiological processes such as glucose metabolism, lipid metabolism, insulin sensitivity and autophagy. Activation of AMPK has been linked to various health benefits, including improved insulin sensitivity, protection against cardiovascular diseases and potential anti-aging effects. Therefore, AMPK activation has gained interest as a potential target for therapeutic interventions in metabolic disorders such as diabetes, obesity and cardiovascular diseases.

AMPK activators are compounds or substances that stimulate the activity of AMPK. These activators can work through various mechanisms to increase the activity of AMPK, ultimately leading to changes in cellular metabolism and energy balance. Some natural compounds, pharmaceutical drugs and lifestyle interventions have been identified as AMPK activators.

AMPK Activators Highlights

AdipoGen

AdipoRon . HCl (water soluble)

PID: AG-CR1-0061
Formula: C₂₁H₂₇N₃O₃
MW: 386.2
CAS: 2627-69-2

Description: Cell permeable AMPK activator. Insulin insensitive.

Adipon . HCl (water soluble)

PID: AG-CR1-0156
Formula: C₂₁H₂₇N₃O₃ · HCl · H₂O
MW: 425.5 · 185.1 · 18.0
CAS: 924416-43-3 (free base)

Description: Orally-active adiponectin receptor agonist. Activates AMPK and PGC1 α . Improves diabetes, glucose and lipid metabolism and insulin sensitivity.

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[GLP-1, GIPR & GCGR Signaling](#)

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GLP-1R, GIPR & GCGR Agonists
Peptide-based Tools for Obesity & Diabetes Research

The blazing success of weight loss drugs like Wegovy and Mounjaro has electrified obesity research and spurred the pursuit of new treatments for obesity. Dozens of companies are jumping into the race to market medications that are oral, longer-lasting, avoid side effects or provide additional benefits besides weight loss. Many of these drugs are targeting glucagon-like peptide-1 receptor (GLP-1R), glucose-dependent insulinotropic polypeptide receptor (GIPR) and glucagon receptor (GCR), as well as other hormones involved in satiety and metabolism; some are using entirely novel mechanisms.

Available from Stock in **BULK**

Product Name	PID	MW	Description
Liraglutide	AG-CP1-0034	1 mg 5 mg 25 mg 100 mg	Long-acting activated GLP-1 receptor agonist.
Retatrutide . HCl	AG-CP1-0084	1 mg 5 mg 25 mg 100 mg	Novel triple agonist peptide of the GCG receptor, GIP receptor and GLP-1 receptor.
Semaglutide	AG-CP1-0088	1 mg 5 mg 25 mg 100 mg	Long-acting alternative GLP-1 receptor agonist to liraglutide.
Semaglutide . acetate	AG-CP1-0052	1 mg 5 mg 25 mg 100 mg	Semaglutide salt form.
Tirzepatide	AG-CP1-0051	5 mg 25 mg 100 mg	Novel dual GIP and GLP-1 receptor agonist.

Available on Request **NEW**

Product Name	PID	MW	Description
Mazdutide (JY 1395473)	AG-CP1-0045	1 mg 5 mg 25 mg	Novel long-acting dual GLP-1 and GCG receptor agonist.
Saroglutide (JY 456906)	AG-CP1-0086	1 mg 5 mg 25 mg	Novel long-acting dual GLP-1 and GCG receptor agonist.

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[PPAR Signaling](#)

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PPAR Modulators

PPARs (Peroxisome proliferator-activated receptors) are endogenous ligand-activated transcription factors including PPAR α , PPAR β / δ and PPAR γ that are involved in the regulation of multiple complex metabolic pathways and cellular functions and play a central role in regulating not only energy homeostasis (mainly glucose and lipids), but also cell proliferation, inflammation and differentiation. Abnormalities in the metabolic processes of PPARs are closely associated with the onset of numerous diseases, including many types of cancer, non-alcoholic fatty liver disease, atherosclerosis and diabetes mellitus. Because of their role as multifunctional molecules possessing potent metabolic regulatory properties, synthetic PPAR modulators have been widely used in the treatment of a wide range of diseases. PPAR δ agonists (e.g. firsocostat) lower triglycerides and reverse insulin resistance and some of the antihyperglycemic mechanisms of PPAR δ agonists involve AMPK activation. Thiazolidinediones (TZDs) are PPAR γ agonists primarily used for insulin sensitization in the treatment of type 2 diabetes and metabolic syndrome.

PPAR Activators Highlights

GW501516

PID: AG-CR1-3641
Formula: C₂₁H₂₇N₃O₃
MW: 455.5
CAS: 317318-70-0

Description: Potent and selective PPAR- δ agonist/activator with high affinity (K_i=1nM) and potency (EC₅₀=1nM) for PPAR δ and >1000 fold selectivity over PPAR α and PPAR γ .

Rosiglitazone . maleate

PID: AG-CR1-3571
Formula: C₂₁H₂₇N₃O₃ · C₁₀H₁₀O₄
MW: 337.4 · 176.7
CAS: 155141-29-0

Description: Potent and selective γ (PPAR- γ) agonist.

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