Phenylacetylglycine

Cat. No.: HY-W015061

CAS No.: 500-98-1

Molecular Formula: $C_{10}H_{11}NO_3$

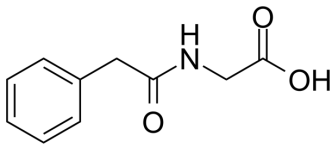
Molecular Weight: 193.2

Target: Endogenous Metabolite; Adrenergic Receptor; Apoptosis

Pathway: Metabolic Enzyme/Protease; GPCR/G Protein; Neuronal Signaling; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (517.60 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.1760 mL	25.8799 mL	51.7598 mL
	5 mM	1.0352 mL	5.1760 mL	10.3520 mL
	10 mM	0.5176 mL	2.5880 mL	5.1760 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.83 mg/mL (4.30 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.83 mg/mL (4.30 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.83 mg/mL (4.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Phenylacetylglycine is a gut microbial metabolite that can activate β2AR. Phenylacetylglycine protects against cardiac injury caused by ischemia/reperfusion[1].

IC_{50} & Target			
	β2 adrenoceptor	Microbial Metabolite	Human Endogenous Metabolite

In Vitro

Phenylacetylglycine (10-100 μM; 30 min before H/R injury) reduces disreoxygenation (H/R) injury-induced apoptosis and activates Gαi and Gαs signaling in neonatal mouse cardiomyocytes (NMCMs)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Apoptosis Analysis[1]

Cell Line:	Neonatal mouse cardiomyocytes (NMCMs)
Concentration:	10, 33 and 100 μM
Incubation Time:	Half an hour before H/R injury
Result:	Inhibited disreoxygenation injury induced apoptosis.

Western Blot Analysis[1]

Cell Line:	Neonatal mouse cardiomyocytes (NMCMs)
Concentration:	10, 33 and 100 μM
Incubation Time:	Half an hour before H/R injury
Result:	Significantly decreased the ratio of Bax/Bcl2 and cleaved-caspase 3 expression. Enhanced p-PI3K protein expression. cAMP levels were increased in the early stage and then gradually decreased.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2024 Mar 13:e2306297.

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REFERENCES

[1]. Xu X, et al. The gut microbial metabolite phenylacetylglycine protects against cardiac injury caused by ischemia/reperfusion through activating β2AR. Arch Biochem Biophys. 2021 Jan 15;697:108720.

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