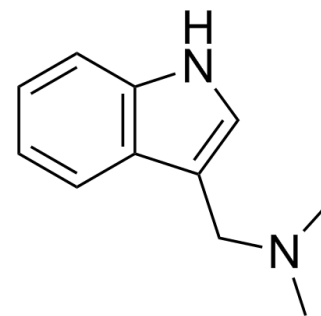


Gramine

Cat. No.:	HY-N0166		
CAS No.:	87-52-5		
Molecular Formula:	C ₁₁ H ₁₄ N ₂		
Molecular Weight:	174.24		
Target:	Adiponectin Receptor; Adrenergic Receptor		
Pathway:	GPCR/G Protein		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (717.40 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.7392 mL	28.6961 mL	57.3921 mL
	5 mM	1.1478 mL	5.7392 mL	11.4784 mL
	10 mM	0.5739 mL	2.8696 mL	5.7392 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (11.94 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (11.94 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (11.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Gramine (Donaxine) is a natural alkaloid isolated from giant reed^[2], acts as an active **adiponectin receptor (AdipoR)** agonist, with IC₅₀s of 3.2 and 4.2 μM for AdipoR2 and AdipoR1, respectively^[1]. Gramine is also a human and mouse **β2-Adrenergic receptor (β2-AR)** agonist^[2]. Gramine (Donaxine) has anti-tumor, anti-viral and anti-inflammatory properties^[1].

IC₅₀ & Target	IC ₅₀ : 3.2 μM (AdipoR2), 4.2 μM (AdipoR1) ^[1]
In Vitro	Gramine is an active adiponectin receptor (AdipoR) agonist, with IC ₅₀ s of 3.2 and 4.2 μM for AdipoR2 and AdipoR1, respectively ^[1] . Gramine is a potential β ₂ -AR agonist ^[2] . Gramine (20 μM to 1.2 nM) dose-dependently inhibits the growth of AdipoR1/adipoR2-positive cancer cell lines (MDA-MB-231 and MCF-7 cells), with IC ₅₀ s of 9.6±0.9 and 0.1±0.1 μM, respectively ^[1] .

REFERENCES

[1]. Sun Y, et al. Identification of adiponectin receptor agonist utilizing a fluorescence polarization based high throughput assay. PLoS One. 2013 May 14;8(5):e63354.

[2]. Chikazawa M, et al. Identification of Functional Food Factors as β₂-Adrenergic Receptor Agonists and Their Potential Roles in Skeletal Muscle. J Nutr Sci Vitaminol (Tokyo). 2018;64(1):68-74.

Caution: Product has not been fully validated for medical applications. For research use only.

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