

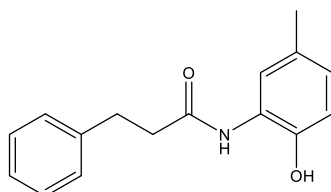
Catalog # 10-3973

AA147

CAS# 393121-74-9

N-(2-Hydroxy-5-methylphenyl)-3-phenylpropanamide; Compound 147

Lot # FBS2135



AA147 is a preferential activator of the ER stress sensing protein ATF6.¹ It was able to selectively reduce secretion and extracellular aggregation of destabilized amyloidogenic variants of TTR and LC proteins. AA147-dependent ATF6 activation proceeds *via* metabolic activation to a reactive electrophile that selectively modifies ER proteins including multiple protein disulfide isomerases.² AA147 suppressed pluripotency and promoted human stem cell differentiation toward a mesodermal lineage *via* ER expansion.³ It protected the heart against ischemia/reperfusion (I/R) injury in a mouse model of acute myocardial infarction in an ATF6-dependent manner.⁴ Brain, kidney, and liver tissue was also protected from I/R damage and impaired proteostasis. AA147 reduced infection of multiple strains of dengue and Zika viruses in an ATF6-independent manner.⁵ Protects against glutamate-induced cell death in a neuronal-derived cell culture model.⁶

References:

- 1) Plate *et al.* (2016), *Small molecule proteostasis regulators that reprogram the ER to reduce extracellular protein aggregation*; *Elife* **5** e15550
- 2) Paxman *et al.* (2018), *Pharmacologic ATF6 activating compounds are metabolically activated to selectively modify endoplasmic reticulum, proteins*; *Elife* **7** e37168
- 3) Kroeger *et al.* (2018), *The unfolded protein response regulator ATF6 promotes mesodermal differentiation*; *Sci. Signal.* **11** ean5785
- 4) Blackwood *et al.* (2019), *Pharmacological ATF6 activation confers global protection in widespread disease models by reprogramming cellular proteostasis*; *Nat. Commun.* **10** 187
- 5) Almasy *et al.* (2021), *Small molecule endoplasmic reticulum proteostasis regulator acts as a broad-spectrum inhibitor of dengue and Zika virus infections*; *Proc. Natl. Acad. Sci. USA* **118** e2012209118
- 6) Rosardo *et al.* (2021), *Metabolically Activated Proteostasis Regulators against Glutamate Toxicity by Activating NRF2*; *ACS Chem. Biol.* **16** 2852

PHYSICAL DATA

Molecular Weight:	255.32
Molecular Formula:	C ₁₆ H ₁₇ NO ₂
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml) or Ethanol (>25 mg/ml)
Physical Description:	Beige to pale orange solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 1 month.

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