

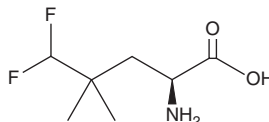
PRODUCT INFORMATION



NV-5138

Item No. 35482

CAS Registry No.: 2095886-80-7
Formal Name: 2S-amino-5,5-difluoro-4,4-dimethyl-pentanoic acid
MF: C₇H₁₃F₂NO₂
FW: 181.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

NV-5138 is supplied as a solid. A stock solution may be made by dissolving the NV-5138 in the solvent of choice, which should be purged with an inert gas. NV-5138 is soluble in the organic solvent DMSO at a concentration of approximately 10 mM.

Description

NV-5138 is a sestrin modulator and mammalian target of rapamycin protein complex 1 (mTORC1) activator.¹ It binds to sestrin 2 ($K_d = 1.49 \mu\text{M}$) and induces dissociation of sestrin 2 from the multimeric mTORC1 inhibitory complex GATOR2 and mTORC1 activation when used at concentrations ranging from 30 to 100 μM . NV-5138 (40, 80, or 160 mg/kg) reduces immobility time in the forced swim test and latency to feed in the novelty-suppressed feeding test, indicating antidepressant- and anxiolytic-like activity, respectively, in rats, effects that can be reversed by the mTORC1 inhibitor rapamycin (Item No. 13346).² It also reverses behavioral and synaptic deficits in a rat model of chronic stress-induced depression.

References

1. Sengupta, S., Giaime, E., Narayan, S., *et al.* Discovery of NV-5138, the first selective brain mTORC1 activator. *Sci. Rep.* **9(1)**, 4107 (2019).
2. Kato, T., Pothula, S., Liu, R.-J., *et al.* Sestrin modulator NV-5138 produces rapid antidepressant effects via direct mTORC1 activation. *J. Clin. Invest.* **129(6)**, 2542-2554 (2019).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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