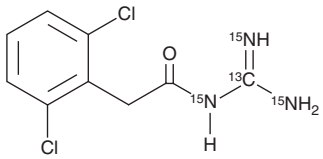
PRODUCT INFORMATION

Guanfacine-$^{13}C,^{15}N_3$

Item No. 30143

CAS Registry No.: 1189924-28-4
Formal Name: N-(amino-^{15}N-imino-^{15}N-methyl-^{13}C)-2,6-dichloro-benzeneacetamide-^{15}N
MF: $C_8[^{13}C]H_9Cl_2[^{15}N]_3O$
FW: 250.1
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

Guanfacine-$^{13}C,^{15}N_3$ is supplied as a solid. A stock solution may be made by dissolving the guanfacine-$^{13}C,^{15}N_3$ in the solvent of choice, which should be purged with an inert gas. Guanfacine-$^{13}C,^{15}N_3$ is slightly soluble in methanol (when sonicated).

Description

Guanfacine-$^{13}C,^{15}N_3$ is intended for us as an internal standard for the quantification of guanfacine (Item No. 22907) by GC- or LC-MS. Guanfacine is an α_2-adrenergic receptor (α_2-AR) agonist with K_i values of 93, 1,380, and 3,890 nM for α_{2A}-, α_{2B}-, and α_{2C}-ARs, respectively, in a radioligand binding assay.[1] It has EC_{50} values of 52, 288, and 602 nM for α_{2A}-, α_2B-, and α_{2C}-ARs, respectively, for stimulated [^{35}S]GTPγS binding. It also binds to imidazoline receptor 1 (K_i = 19 nM in a radioligand binding assay).[2] Guanfacine (0.3-5 mg/kg) binds to adrenergic receptors in the central nervous system and lowers blood pressure in hypertensive rats in a dose-dependent manner.[3] It also improves spatial working memory deficits induced by hypobaric hypoxia in rats.[4] Formulations containing guanfacine are used in the treatment of high blood pressure and attention deficit hyperactivity disorder (ADHD).

References

1. Jasper, J.R., Lesnick, J.D., Chang, L.K., *et al.* Ligand efficacy and potency at recombinant α_2 adrenergic receptors: Agonist-mediated [^{35}S]GTPγS binding. *Biochem. Pharmacol.* **55(7)**, 1035-1043 (1998).
2. Nikolic, K., Filipic, S., and Agbaba, D. QSAR study of imidazoline antihypertensive drugs. *Bioorg. Med. Chem.* **16(15)**, 7134-7140 (2008).
3. Scholtysik, G. Pharmacology of guanfacine. *Br. J. Clin. Pharmacol.* **10(Suppl 1)**, 21S-24S (1980).
4. Kauser, H., Sahu, S., Kumar, S., *et al.* Guanfacine is an effective countermeasure for hypobaric hypoxia-induced cognitive decline. *Neuroscience* **254**, 110-119 (2013).

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