

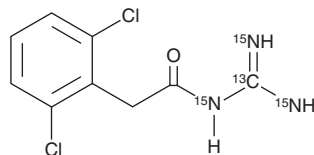
# PRODUCT INFORMATION



## Guanfacine-<sup>13</sup>C,<sup>15</sup>N<sub>3</sub>

Item No. 30143

**CAS Registry No.:** 1189924-28-4  
**Formal Name:** N-(amino-<sup>15</sup>N-imino-<sup>15</sup>N-methyl-<sup>13</sup>C)-2,6-dichloro-benzeneacetamide-<sup>15</sup>N  
**MF:** C<sub>8</sub>[<sup>13</sup>C]H<sub>9</sub>Cl<sub>2</sub>[<sup>15</sup>N]<sub>3</sub>O  
**FW:** 250.1  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Guanfacine-<sup>13</sup>C,<sup>15</sup>N<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the guanfacine-<sup>13</sup>C,<sup>15</sup>N<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Guanfacine-<sup>13</sup>C,<sup>15</sup>N<sub>3</sub> is slightly soluble in methanol (when sonicated).

### Description

Guanfacine-<sup>13</sup>C,<sup>15</sup>N<sub>3</sub> is intended for use as an internal standard for the quantification of guanfacine (Item No. 22907) by GC- or LC-MS. Guanfacine is an α<sub>2</sub>-adrenergic receptor (α<sub>2</sub>-AR) agonist with K<sub>i</sub> values of 93, 1,380, and 3,890 nM for α<sub>2A</sub>-, α<sub>2B</sub>-, and α<sub>2C</sub>-ARs, respectively, in a radioligand binding assay.<sup>1</sup> It has EC<sub>50</sub> values of 52, 288, and 602 nM for α<sub>2A</sub>-, α<sub>2B</sub>-, and α<sub>2C</sub>-ARs, respectively, for stimulated [<sup>35</sup>S]GTPγS binding. It also binds to imidazoline receptor 1 (K<sub>i</sub> = 19 nM in a radioligand binding assay).<sup>2</sup> 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.<sup>3</sup> It also improves spatial working memory deficits induced by hypobaric hypoxia in rats.<sup>4</sup> 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<sub>2</sub> adrenergic receptors: Agonist-mediated [<sup>35</sup>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. Kausar, H., Sahu, S., Kumar, S., *et al.* Guanfacine is an effective countermeasure for hypobaric hypoxia-induced cognitive decline. *Neuroscience* **254**, 110-119 (2013).

#### 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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