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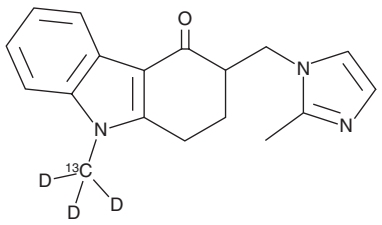
PRODUCT INFORMATION

Ondansetron-^{13}C-d$_3$

Item No. 25754

Formal Name:	9-(methyl-^{13}C-d$_3$)-3-((2-methyl-1H-imidazol-1-yl)methyl)-1,2,3,9-tetrahydro-4H-carbazol-4-one
MF:	$C_{17}[^{13}C]H_{16}D_3N_3O$
FW:	297.4
Chemical Purity:	≥98% (Ondansetron)
Deuterium Incorporation:	≥99% deuterated forms (d$_1$-d$_3$); ≤1% d$_0$
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

Ondansetron-^{13}C-d$_3$ is intended for use as an internal standard for the quantification of ondansetron by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Ondansetron-^{13}C-d$_3$ is supplied as a solid. A stock solution may be made by dissolving the ondansetron-^{13}C-d$_3$ in the solvent of choice. Ondansetron-^{13}C-d$_3$ is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 0.1 mg/ml.

Description

Ondansetron is an antagonist of the serotonin (5-HT) receptor subtype 5-HT$_3$ receptor (K_i = 1.6 nM).[1] It is selective for the 5-HT$_3$ receptor over the 5-HT$_{1A-D}$, 5-HT$_2$, and 5-HT$_4$ receptors (K_is = >1,200 nM). It inhibits 5-HT-induced depolarization of isolated rat vagus nerve and contraction of isolated guinea pig ilium longitudinal muscle-myenteric plexus preparations in a concentration-dependent manner *ex vivo*.[2] In a ferret model of cisplatin-induced emesis, ondansetron reduces the number of retching and vomiting episodes and increases the latency time to vomit when administered at a dose of 0.01 mg/kg and eliminates retching and vomiting when administered at a dose of 0.1 mg/kg.[3] Ondansetron (0.5 and 1 mg/kg) also decreases immobility time in a forced swim test and increases time spent in the light chamber and latency to leave the light chamber in the light/dark exploration test in a mouse model of diabetes induced by streptozotocin (STZ; Item No. 13104), indicating antidepressant-like and anxiolytic activities.[4] Formulations containing ondansetron have been used in the treatment of nausea and vomiting associated with chemotherapy, radiotherapy, or following surgery.

References

1. van Wijingaarden, I., Hamminga, D., van Hes, R., *et al. J. Med. Chem.* **36(23)**, 3693-3699 (1993).
2. Butler, A., Hill, J.M., Ireland, S.J., *et al. Br. J. Pharmacol.* **94(2)**, 397-412 (1988).
3. Stables, R., Andrews, P.L.R., Bailey, H.E., *et al. Cancer Treat. Rev.* **14(3-4)**, 333-336 (1987).
4. Gupta, D., Radhakrishnan, M., and Kurhe, Y. *Eur. J. Pharmacol.* **744**, 59-66 (2014).

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