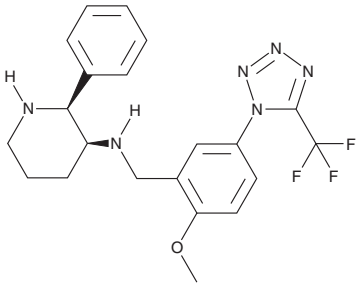
PRODUCT INFORMATION

Vofopitant

Item No. 42029

CAS Registry No.:	168266-90-8
Formal Name:	N-[[2S-methoxy-5-[5-(trifluoromethyl)-1H-tetrazol-1-yl]phenyl]methyl]-2-phenyl-3S-piperidinamine
Synonym:	GR 205171
MF:	$C_{21}H_{23}F_3N_6O$
FW:	432.4
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

Vofopitant is supplied as a solid. A stock solution may be made by dissolving the vofopitant in the solvent of choice, which should be purged with an inert gas. Vofopitant is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in acetonitrile.

Description

Vofopitant is a neurokinin-1 (NK_1) receptor antagonist (K_i = 0.03 nM for the human receptor).[1] It is selective for NK_1 over NK_2 and NK_3 receptors (IC_{50}s = >10,000 nM for both), the serotonin (5-HT) receptor subtypes 5-HT_{1A}, 5-HT_{1D}, and 5-HT_{2A} (K_is = 501, 251, and 316 nM, respectively), and histamine H_1 and H_2 receptors (K_is = 316 and 251 nM, respectively). It inhibits systemic vascular leakage induced by resiniferatoxin in guinea pigs (ID_{50} = 0.007 mg/kg).[2] Vofopitant (0.1 mg/kg) inhibits retching and vomiting induced by various emetogens in ferrets.[1] It increases the number of entries into the open arms of the elevated plus maze in gerbils when administered at doses ranging from 0.3 to 5 mg/kg and increases the percentage of time spent in the open arms at 5 mg/kg, indicating anxiolytic-like activity.[3] Vofopitant potentiates the reduction in immobility time induced by citalopram (Item No. 14572) in the forced swim test in mice when administered at a dose of 40 mg/kg but inhibits the reduction in social interaction induced by citalopram in rats and gerbils at 0.63 and 10 mg/kg, indicating potentiation and inhibition of citalopram-induced antidepressant-like and anxiety-like behaviors, respectively.[4]

References

1. Gardner, C.J., Armour, D.R., Beattie, D.T., *et al.* GR205171: A novel antagonist with high affinity for the tachykinin NK_1 receptor, and potent broad-spectrum anti-emetic activity. *Regul. Pept.* **65(1),** 45-53 (1996).
2. Hale, J.J., Mills, S.G., MacCoss, M., *et al.* Structural optimization affording 2-(*R*)-(1-(*R*)-3, 5-bis (trifluoromethyl)phenylethoxy)-3-(*S*)-(4-fluoro)phenyl-4-(3-oxo-1,2,4-triazol-5-yl)methylmorpholine, a potent, orally active, long-acting morpholine acetal human NK-1 receptor antagonist. *J. Med. Chem.* **41(23)**, 4607-4614 (1998).
3. Heldt, S.A., Davis, M., Ratti, E., *et al.* Anxiolytic-like effects of the neurokinin 1 receptor antagonist GR-205171 in the elevated plus maze and contextual fear-potentiated startle model of anxiety in gerbils. *Behav. Pharmacol.* **20(7),** 584-595 (2009).
4. Gobert, A., Brocco, M., Dekeyne, A., *et al.* Neurokinin$_1$ antagonists potentiate antidepressant properties of serotonin reuptake inhibitors, yet blunt their anxiogenic actions: A neurochemical, electrophysiological, and behavioral characterization. *Neuropsychopharmacology* **34(4),** 1039-1056 (2009).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM