# **PRODUCT** INFORMATION



## (±)-O-Desmethyl Venlafaxine

Item No. 9001881

CAS Registry No.:	93413-62-8	<u>^</u>
Formal Name:	4-[2-(dimethylamino)-1-(1-hydroxycyclohexyl)	
	ethyl]-phenol	ОН
Synonyms:	Desvenlafaxine, DVS 233, MDD-XR,	
	Wy 45233	V V N
MF:	C <sub>16</sub> H <sub>25</sub> NO <sub>2</sub>	
FW:	263.4	
Purity:	≥98%	
UV/Vis.:	λ <sub>max</sub> : 226, 275 nm	
Supplied as:	A crystalline solid	
Storage:	-20°C	ÓН
Stability:	≥4 years	
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Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

#### Laboratory Procedures

(±)-O-Desmethyl venlafaxine is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-O-desmethyl venlafaxine in the solvent of choice, which should be purged with an inert gas. (±)-O-Desmethyl venlafaxine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (±)-O-desmethyl venlafaxine in these solvents is approximately 0.10, 0.25, and 5 mg/ml, respectively.

(±)-O-Desmethyl venlafaxine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (±)-O-desmethyl venlafaxine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (±)-O-Desmethyl venlafaxine has a solubility of approximately 0.30 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

#### Description

(±)-O-Desmethyl venlafaxine is an active metabolite of the selective norepinephrine and serotonin reuptake inhibitor (SNRI) venlafaxine.<sup>1</sup> It is formed from venlafaxine by the cytochrome P450 (CYP) isoform CYP2D6.<sup>2</sup> Desvenlafaxine inhibits the norepinephrine transporter (NET) and serotonin transporter (SERT) with IC<sub>50</sub> values of 47.3 and 531.3 nM, respectively, for the human transporters.<sup>1</sup>It is selective for NET and SERT over 50 receptors, peptides, and ion channels among others. It increases extracellular norepinephrine (NE) in the male rat hypothalamus and increases extracellular serotonin (5-HT) in the same region when used in combination with the 5-HT<sub>1A</sub> receptor antagonist WAY-100635 (Item No. 14599). Desvenlafaxine (3 mg/kg per day) reduces immobility time in the forced swim test in a rat model of cognitive deficits and depression induced by myocardial infarction (MI) when compared with MI-vehicle control animals 16 weeks following MI.<sup>3</sup> It also improves learning in the passive avoidance step-down test two weeks following MI compared to MI-vehicle control rats and spatial memory in the Morris water maze 16 weeks following MI.

#### References

- 1. Deecher, D.C., Beyer, C.E., Johnston, G., et al. Desvenlafaxine succinate: A new serotonin and norepinephrine reuptake inhibitor. J. Pharmacol. Exp. Ther. 318(2), 657-665 (2006).
- Otton, S.V., Ball, S.E., Cheung, S.W., et al. Venlafaxine oxidation in vitro is catalysed by CYP2D6. Br. J. Clin. Pharmacol. 41(2), 149-156 (1996).
- 3. Malick, M., Gilbert, K., Brouillette, J., et al. Cognitive deficits following a post-myocardial infarct in the rat are blocked by the serotonin-norepinephrine reuptake inhibitor desvenlafaxine. Int. J. Mol. Sci. 19(12), E3748 (2018).

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

#### SAFFTY 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.

#### WARRANTY AND LIMITATION OF REMEDY

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