

## Produktinformation



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# PRODUCT INFORMATION



## Safinamide-d<sub>4</sub>

Item No. 28490

Formal Name: 2S-[[[4-[(3-fluorophenyl)methoxy]phenyl]

methyl]amino]-propanamide-2,3,5,6-d<sub>4</sub>

MF:  $C_{17}H_{15}D_4FN_2O_2$ 

FW: 306.4

**Chemical Purity:** ≥98% (Safinamide)

Deuterium

Incorporation:  $\geq$ 99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>);  $\leq$ 1% d<sub>0</sub>

Supplied as: A solid -20°C Storage: Stability: ≥2 years

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

### **Laboratory Procedures**

Safinamide-d<sub>4</sub> is intended for use as an internal standard for the quantification of safinamide (Item No. 21546) 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).

Safinamide-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the safinamide-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Safinamide- $d_{\Delta}$  is soluble in DMSO.

#### Description

Safinamide is an inhibitor of monoamine oxidase B (MAO-B;  $IC_{50}$  = ~0.1  $\mu$ M).<sup>1</sup> It is selective for MAO-B over MAO-A (IC<sub>50</sub> = >10  $\mu$ M). It also inhibits radioligand binding to sodium channel binding site 2, sigma-1, and sigma-2 receptors in rat brain membranes (IC<sub>50</sub>s = 8.2, 0.019, and 1.59  $\mu$ M, respectively).<sup>2</sup> Safinamide inhibits high voltage-activated calcium currents and depolarization-induced tetrodotoxinsensitive fast sodium currents in rat hippocampal neurons in a concentration-dependent manner. It inhibits veratrine-induced glutamate release in rat hippocampal slices (IC<sub>50</sub> = 56  $\mu$ M). Safinamide inhibits maximal electroshock-induced tonic extension seizures in mice and rats  $(ED_{50}s = 8)$  and 11.8 mg/kg, p.o.) as well as maximal seizures induced by bicuculline (Item No. 11727), picrotoxin (Item No. 20771), 3-mercaptopropionic acid, and strychnine in mice (ED<sub>50</sub>s = 26.9, 60.6, 21.5, and 104.1 mg/kg, p.o., respectively).<sup>3</sup> Formulations containing safinamide have been used as adjunctive treatments to levodopa and carbidopa in the treatment of "off" episodes associated with Parkinson's disease.

#### References

- 1. Strolin Benedetti, M.S., Marrari, P., Colombo, M., et al. The anticonvulsant FCE 26743 is a selective and short-acting MAO-B inhibitor devoid of inducing properties towards cytochrome P450-dependent testosterone hydroxylation in mice and rats. J. Pharm. Pharmacol. 46(10), 814-819 (1994).
- 2. Salvati, P., Maj, R., Caccia, C., et al. Biochemical and electrophysiological studies on the mechanism of action of PNU-151774E, a novel antiepileptic compound. J. Pharmacol. Exp. Ther. 288(3), 1151-1159
- Fariello, R.G., McArthur, R.A., Bonsignori, A., et al. Preclinical evaluation of PNU-151774E as a novel anticonvulsant. J. Pharmacol. Exp. Ther. 285(2), 397-403 (1998).

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

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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