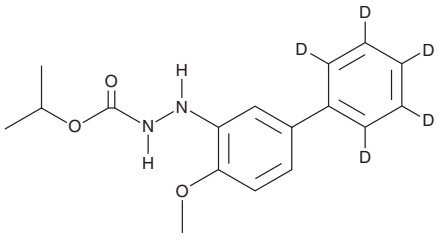
PRODUCT INFORMATION

Bifenazate-d_5

Item No. 39592

Formal Name:	2-(4-methoxy[1,1'-biphenyl]-3-yl-2',3',4',5',6'-d_5-hydrazinecarboxylic acid, 1-methylethyl ester
MF:	$C_{17}H_{15}D_5N_2O_3$
FW:	305.4
Purity:	≥95% (Bifenazate)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
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

Bifenazate-d_5 is intended for use as an internal standard for the quantification of bifenazate (Item No. 24147) 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).

Bifenazate-d_5 is supplied as a solid. A stock solution may be made by dissolving the bifenazate-d_5 in the solvent of choice, which should be purged with an inert gas. Bifenazate-d_5 is slightly soluble in acetonitrile and chloroform.

Description

Bifenazate is a carbazate acaricide that provides 100% control of mites when used at a concentration of 25 ppm.[1] It acts as a positive allosteric modulator of GABA receptors containing the resistance to dieldrin (Rdl) subunit homolog TuGABAR in *T. urticae* (spider mites), shifting the GABA-induced response from an EC_{50} value of 24.8 to 4.83 µM when used at a concentration of 30 µM.[2] Formulations containing bifenazate have been used for the control of mites and for pesticide detection.

References

1. Dekeyser, M.A., McDonald, P.T., and Angle, G.W., Jr. The discovery of bifenazate, a novel carbazate acaricide. *Chimia* **57(11)**, 702-704 (2003).
2. Hiragaki, S., Kobayashi, T., Ochiai, N., *et al.* A novel action of highly specific acaricide; bifenazate as a synergist for a GABA-gated chloride channel of *Tetranychus urticae* [Acari: Tetranychidae]. *Neurotoxicology* **33(3)**, 307-313 (2012).

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