Ketotifen-\textsuperscript{13C-d\textsubscript{3}}

\textit{Item No. 28802}

**Formal Name:** 4-(1-(methyl-\textsuperscript{13C-d\textsubscript{3}})-piperidin-4-ylidene)-4,9-dihydro-10H-benzo[1,2-b]thiophen-10-one

**MF:** C\textsubscript{18}H\textsubscript{16}D\textsubscript{3}NOS

**FW:** 313.4

**Chemical Purity:** ≥98% (Ketotifen)

**Deuterium Incorporation:** ≥99% deuterated forms (d\textsubscript{1}-d\textsubscript{3}); ≤1% d\textsubscript{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**

Ketotifen-\textsuperscript{13C-d\textsubscript{3}} is intended for use as an internal standard for the quantification of ketotifen (Item No. 20303) 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).

Ketotifen-\textsuperscript{13C-d\textsubscript{3}} is supplied as a solid. A stock solution may be made by dissolving the ketotifen-\textsuperscript{13C-d\textsubscript{3}} in the solvent of choice, which should be purged with an inert gas. Ketotifen-\textsuperscript{13C-d\textsubscript{3}} is soluble in organic solvents such as methanol, DMSO, acetonitrile, and dimethyl formamide.

**Description**

Ketotifen is a histamine H\textsubscript{1} receptor antagonist (K\textsubscript{i} = 1.3 nM) and mast cell stabilizer.\textsuperscript{1,2} It is selective for H\textsubscript{1} receptors over H\textsubscript{2} and H\textsubscript{3} receptors (K\textsubscript{i}s = 987 and 2,500 nM, respectively).\textsuperscript{1} Ketotifen (50 and 100 μM) inhibits degranulation of rat peritoneal mast cells induced by compound 48/80 (Item No. 22173).\textsuperscript{2} It inhibits the passive cutaneous anaphylaxis (PCA) reaction in rats by 54.6% when administered orally at a dose of 20 mg/kg.\textsuperscript{3} Ketotifen (30 mg/kg) inhibits the quick phase airway response in a rat ovalbumin-induced immediate airway response model.\textsuperscript{4} Formulations containing ketotifen have been used in the treatment of itching associated with allergic conjunctivitis.

**References**