Duloxetine-\textsubscript{d}\textsubscript{3} (hydrochloride)  
\textit{Item No. 25229}\textsuperscript{a}  

CAS Registry No.: 1188266-11-6  
Formal Name: N-(methyl-\textsubscript{d}\textsubscript{3})-3-(naphthalen-1-yl)oxy)-3-(thiophen-2-yl)propan-1-amine, monohydrochloride  
Synonym: LY248686-\textsubscript{d}\textsubscript{3}  
MF: C\textsubscript{18}H\textsubscript{16}D\textsubscript{3}NOS \cdot HCl  
FW: 336.9  
Chemical Purity: \geq 98\% (Duloxetine)  
Deuterium Incorporation: \geq 99\% deuterated forms (d\textsubscript{1}-d\textsubscript{3}); \leq 1\% d\textsubscript{0}  
Supplied as: A solid  
Storage: 4\textdegree C  
Stability: \geq 2 years  

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

\textbf{Laboratory Procedures}  

Duloxetine-\textsubscript{d}\textsubscript{3} (hydrochloride) is intended for use as an internal standard for the quantification of duloxetine (Item No. 14317) 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).  

\textbf{Description}  

(S)-Duloxetine is a potent inhibitor of serotonin and norepinephrine reuptake (K\textsubscript{i}s = 4.6 and 15.6 nM, respectively, for rat synaptosomes).\textsuperscript{1} It also inhibits dopamine reuptake (K\textsubscript{i} = 369 nM). (S)-Duloxetine suppresses spontaneous firing activity in vivo in the dorsal raphe and locus coeruleus (ED\textsubscript{50}s = 99 and 475 \mu g/kg, respectively).\textsuperscript{2} It also decreases immobility time and increases latency to first immobility in the forced swim test in mice when administered at doses of 16 and 32 mg/kg.\textsuperscript{3} Formulations containing (S)-duloxetine have been used in the treatment of major depressive disorder, generalized anxiety disorder, chronic neuropathic and musculoskeletal pain, and fibromyalgia.  

\textbf{References}  