

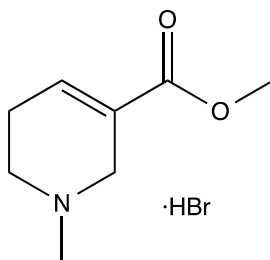
**Catalog # 10-1016**

**Arecoline HBr**

CAS# 300-08-3

1,2,5,6-Tetrahydro-1-methyl-3-pyridinecarboxylic acid, methyl ester, hydrobromide

Lot # X101365



Tyrosine407 phosphorylation activates mitochondrial acetyl-CoA acetyltransferase 1 (ACAT1) by stabilizing its tetramer. This is believed to be the mechanisms by which ACAT1 is “hijacked” and contributes to the Warburg effect in cancer. Arecoline is a covalent inhibitor of ACAT1 which binds to and disrupts only ACAT1 tetramers ( $IC_{50}=11.1 \mu M$ ). ACAT2 and DLAT are not inhibited. Treatment of xenograft nude mice with Arecoline resulted in a dose-dependent reduction in tumor mass.<sup>1</sup> Agonist at muscarinic acetylcholine receptors M1 – M5 ( $EC_{50}$  in the range of 7-410 nM).<sup>2</sup> May be effective in dementia.<sup>3</sup>

- 1) Fan *et al.* (2016), *Tetrameric Acetyl-CoA Acetyltransferase 1 is Important for Tumor Growth*; Mol. Cell, **64** 859
- 2) Heinrich *et al.* (2009), *Pharmacological comparison of muscarinic ligands: historical versus more recent muscarinic M1-preferring receptor agonists*; Eur. J. Pharmacol., **605** 53
- 3) Christie *et al.* (1981), *Physostigmine and arecoline: effects of intravenous infusions in Alzheimer presenile dementia*; Br. J. Psychiatry, **138** 46

**PHYSICAL DATA**

Molecular Weight:	236.11
Molecular Formula:	C <sub>8</sub> H <sub>13</sub> NO <sub>2</sub> HBr
Purity:	98% by TLC
	NMR: (Conforms)
Solubility:	Water (up to 50 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 1 year from the date of purchase. Solutions are not stable and cannot be stored. Solutions in distilled water should be used within one working day.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**