

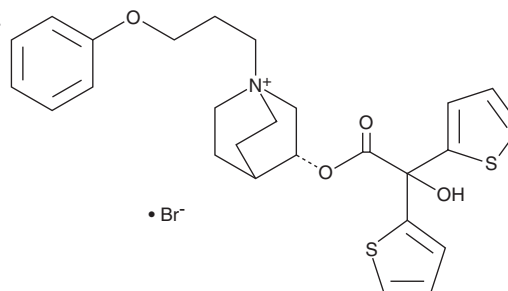
# PRODUCT INFORMATION



## Acridinium (bromide)

Item No. 20699

**CAS Registry No.:** 320345-99-1  
**Formal Name:** (3R)-3-[(2-hydroxy-2,2-di-2-thienylacetyl)oxy]-1-(3-phenoxypropyl)-1-azoniabicyclo[2.2.2]octane, monobromide  
**Synonyms:** LAS 34273, LAS-W 330  
**MF:** C<sub>26</sub>H<sub>30</sub>NO<sub>4</sub>S<sub>2</sub> • Br  
**FW:** 564.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 221, 238, 276 nm  
**Supplied as:** A crystalline 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

Acridinium (bromide) is supplied as a crystalline solid. A stock solution may be made by dissolving the acridinium (bromide) in the solvent of choice. Acridinium (bromide) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of acridinium (bromide) in these solvents is approximately 0.14, 15, and 10 mg/ml, respectively.

Acridinium (bromide) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, acridinium (bromide) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Acridinium (bromide) has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Acridinium is an antagonist of muscarinic acetylcholine receptors (mAChRs; K<sub>i</sub>s = 0.1, 0.14, 0.14, 0.21, and 0.16 for the M<sub>1</sub>-M<sub>5</sub> receptors, respectively).<sup>1</sup> It induces relaxation of precontracted isolated human bronchi when used at a concentration of 0.1 μM.<sup>2</sup> Acridinium reduces bronchoconstriction induced by ACh (Item No. 23829) in anesthetized guinea pigs when administered *via* nebulization.<sup>1</sup> Formulations containing acridinium have been used in the treatment of chronic obstructive pulmonary disease (COPD).

### References

1. Gavaldà, A., Miralpeix, M.R., Ramos, I., *et al.* Characterization of acridinium bromide, a novel inhaled muscarinic antagonist, with long duration of action and a favorable pharmacological profile. *J. Pharmacol. Exp. Ther.* **331**(2), 740-751 (2009).
2. Rogliani, P., Calzetta, L., Ora, J., *et al.* Pharmacological assessment of the onset of action of acridinium and glycopyrronium versus tiotropium in COPD patients and human isolated bronchi. *Eur. J. Pharmacol.* **761**, 383-390 (2015).

#### WARNING

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

#### SAFETY DATA

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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