

# PRODUCT INFORMATION

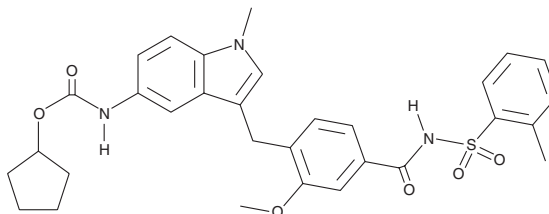


## Zafirlukast

Item No. 10008282

**CAS Registry No.:** 107753-78-6  
**Formal Name:** [3-[[2-methoxy-4-[[[(2-methylphenyl)sulfonyl]amino]carbonyl]phenyl]methyl]-1-methyl-1H-indol-5-yl]-carbamic acid, cyclopentyl ester

**MF:** C<sub>31</sub>H<sub>33</sub>N<sub>3</sub>O<sub>6</sub>S  
**FW:** 575.7  
**Purity:** ≥97%  
**UV/Vis.:** λ<sub>max</sub>: 203, 215, 241, 299 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

Zafirlukast is supplied as a crystalline solid. A stock solution may be made by dissolving the zafirlukast in an organic solvent purged with an inert gas. Zafirlukast is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of zafirlukast in these solvents is approximately 0.25, 20, and 30 mg/ml, respectively.

Zafirlukast is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, zafirlukast should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Zafirlukast has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

The cysteinyl leukotrienes (CysLTs), LTC<sub>4</sub> and LTD<sub>4</sub>, are potent mediators of asthma and hypersensitivity. They induce bronchoconstriction, increase microvascular permeability, and are vasoconstrictors of coronary arteries. Their biological effects are transduced by a pair of G protein-coupled receptors, CysLT<sub>1</sub> and CysLT<sub>2</sub>.<sup>1-3</sup> Zafirlukast is a potent, selective CysLT<sub>1</sub> receptor antagonist sold under the trade name Accolate for the treatment of asthma as well as for the symptoms associated with allergic rhinitis.<sup>4-6</sup> It binds to the human CysLT<sub>1</sub> and CysLT<sub>2</sub> receptors with IC<sub>50</sub> values of approximately 5 and 7,400 nM, respectively.<sup>1-3</sup>

### References

1. Lynch, K.R., O'Neill, G.P., Liu, Q., *et al. Nature* **399**, 789-793 (1999).
2. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., *et al. J. Biol. Chem.* **275**, 30531-30536 (2000).
3. Sarau, H.M., Ames, R.S., Chambers, J., *et al. Mol. Pharmacol.* **56**, 657-663 (1999).
4. Matassa, V.G., Maduskuie, T.P., Jr., Shapiro, H.S., *et al. J. Med. Chem.* **33**, 1781-1790 (1990).
5. Silverman, R.A., Nowak, R.M., Korenblat, P.E., *et al. Chest* **126**, 1480-1489 (2004).
6. Peters-Golden, M. and Henderson, W.R. *Ann. Allergy Asthma Immunol.* **94**, 609-618 (2005).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/02/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897

[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM