Product Datasheet

(R)-Flurbiprofen

Catalog No. **BP-02409** · CAS **51543-40-9** · Form **free base** · Physical state **solid** · Version **1.0** · Revision **2026-09-10**

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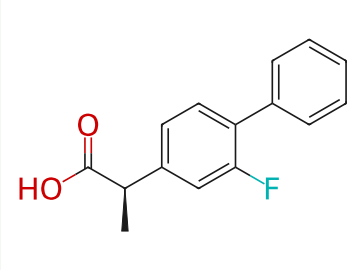
Target	Research area
RAR/RXR; Autophagy	**Infection; Neurological Disease; Inflammation/Immunology; Cancer**

Molecular formula	$C_{15}H_{13}FO_2$
Molecular weight	**244.2609**

STRUCTURE



DESCRIPTION

Tarenflurbil ((R)-Flurbiprofen) is the R-enantiomer of the racemate NSAID Flurbiprofen, Tarenflurbil ((R)-Flurbiprofen) inhibits the binding of [3H]9-cis-RA to RXRα LBD with IC50 of 75 μM. Tarenflurbil can be used for Alzheimer's disease research.

BIOLOGICAL ACTIVITY

In Vitro

Tarenflurbil ((R)-Flurbiprofen) can significantly reduce Aβ secretion, but at the same time, increases the level of intracellular Aβ. The binding between [3H]9-cis-RA and RXRα is competitively inhibited by both unlabeled (R)-Flurbiprofen and 9-cis-RA. (R)-Flurbiprofen can interfere with the interaction between RXRα and 9-cis-retinoid acid (9-cis-RA), and that 9-cis-RA decreases Tarenflurbil ((R)-Flurbiprofen)’s reduction of Aβ secretion. Tarenflurbil ((R)-Flurbiprofen) treatment significantly increases the levels of intracellular Aβ species[1]. The well characterized, nonsteroidal anti-inflammatory drug (nonsteroidal anti-inflammatory drug), Tarenflurbil ((R)-Flurbiprofen) affects only Aβ and not Notch β formation, indicating that second generation GSMs and nonsteroidal anti-inflammatory drug-based GSMs have different modes of action regarding Notch processing.

In Vivo

Effects of the early and late onset of treatment with Tarenflurbil ((R)-Flurbiprofen) are assessed in C57BL6/J mice that develop a non-remitting form of the disease, and in SJL mice that develop a relapsing-remitting (RR)-EAE. Tarenflurbil ((R)-Flurbiprofen) completely prevents the development of clinical EAE scores in C57BL6/J mice when the treatment is started within 3 days after immunization. This regimen is referred to as preventive treatment. The effect is dose-dependent, and the minimum daily dose for complete prevention is 5 mg/kg/day. Effects of Tarenflurbil ((R)-Flurbiprofen) are comparable to those of Fingolimod (FTY720, 0.5 mg/kg/day), which is used as the positive control. Tarenflurbil ((R)-Flurbiprofen) also significantly reduces clinical EAE scores in C57BL6/J mice when treatment is started shortly before onset of clinical manifestations, referred to as semi-therapeutic (10 mg/kg/day) and reduces clinical scores when the treatment is initiated after full development of the disease on day 13 (5

mg/g/day).

SOLUBILITY

Soluble in DMSO : 100 mg/mL

REFERENCES

[1].You X, et al. Retinoid X receptor-alpha mediates (R)-flurbiprofen's effect on the levels of Alzheimer's beta-amyloid. J Neurochem. 2009 Oct;111(1):142-9.

[2].Wanngren J, et al. Second generation γ-secretase modulators exhibit different modulation of Notch β and Aβ production. J Biol Chem. 2012 Sep 21;287(39):32640-50.

[3].Schmitz K, et al. R-flurbiprofen attenuates experimental autoimmune encephalomyelitis in mice. EMBO Mol Med. 2014 Sep 30;6(11):1398-422.

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