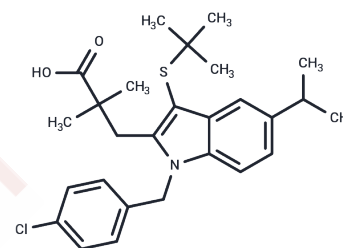


MK-886

## Chemical Properties

CAS No. : 118414-82-7  
 Formula: C<sub>27</sub>H<sub>34</sub>ClNO<sub>2</sub>S  
 Molecular Weight: 472.08  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
 Actual storage temperature shall be subject to the COA.



## Biological Description

Description	MK-886 (L 663536) is an inhibitor of leukotriene biosynthesis, acting by inhibiting the 5-lipoxygenase-activating protein (FLAP), and serves as a moderately potent PPAR $\alpha$ antagonist.
Targets(IC50)	Apoptosis,FLAP,COX,Leukotriene Receptor,PPAR
In vitro	MK-886, an inhibitor of the 5-lipoxygenase-activating protein (FLAP), potently suppresses leukotriene biosynthesis in intact cells and is frequently used to define a role of the 5-lipoxygenase (EC 1.13.11.34) pathway in cellular or animal models of inflammation, allergy, cancer, and cardiovascular disease. MK-886 inhibits isolated COX-1 (IC <sub>50</sub> =8 $\mu$ M) and blocks the formation of the COX-1-derived products 12(S)-hydroxy-5-cis-8,10-trans-heptadecatrienoic acid (12-HHT) and thromboxane B <sub>2</sub> in washed human platelets in response to collagen as well as from exogenous arachidonic acid (IC <sub>50</sub> =13-15 $\mu$ M). Isolated COX-2 was less affected (IC <sub>50</sub> =58 $\mu$ M), and in A549 cells, MK-886 (33 $\mu$ M) failed to suppress COX-2-dependent 6-ketoprostaglandin (PG)F <sub>1</sub> $\alpha$ formation. MK-886 (10 $\mu$ M) inhibits COX-1-mediated platelet aggregation induced by collagen or arachidonic acid whereas thrombin- or U-46619-induced (COX-independent) aggregation is not affected[1].
In vivo	Repeated daily i.p. injections of MK-886 results in increased GluR1 phosphorylation in brain samples obtained from the prefrontal cortex. In contrast, a single injection of MK-886 does not alter cortical GluR1 phosphorylation[2].
Kinase Assay	Enzyme assay is conducted in buffer containing 25 mM Tris, pH 8.0, 1 mM DTT, 1 mM spermine, 50 mM KCl, 0.01% Nonidet P-40, and 1 mM MgCl <sub>2</sub> . PARP reaction contains 0.1 $\mu$ Ci [3H]NAD <sup>+</sup> (200 000 DPM), 1.5 $\mu$ M NAD <sup>+</sup> , 150 nM biotinylated NAD <sup>+</sup> , 1 $\mu$ g/mL activated calf thymus, and 175 nM PARP-1. Autoreactions utilizing SPA bead-based detection are carried out in 50 $\mu$ L volumes in white 96-well plates. Compounds (e.g., MK-4827) are prepared in 11-point serial dilution in 96-well plate, 5 $\mu$ L/well in 5% DMSO/Water (10 $\times$ concentrated). Reactions are initiated by adding first 35 $\mu$ L of PARP-1 enzyme in buffer and incubating for 5 min at room temperature and then 10 $\mu$ L of NAD <sup>+</sup> and DNA substrate mixture. After 3 h at room temperature, these reactions are terminated by the addition of 50 $\mu$ L of streptavidin-SPA beads (2.5 mg/mL in 200 mM EDTA, pH 8). After 5 min, they are counted using a TopCount microplate scintillation counter. IC <sub>50</sub> data is determined from inhibition curves at various substrate concentrations[1].

Cell Research	IL-1 $\beta$ -stimulated A549 cells (5 $\times$ 10 <sup>6</sup> /ml) are pre-incubated with MK-886 (MK, 33 $\mu$ M), indomethacin (Indo, 10 $\mu$ M), celecoxib (Cele, 5 $\mu$ M) or vehicle (DMSO) for 15 min prior to the addition of 30 $\mu$ M arachidonic acid. After 15 min at 37 $^{\circ}$ C, the amount of released 6-keto PGF1 $\alpha$ was assessed by ELISA as described in the Materials and methods section. (Only for Reference)
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### Solubility Information

Solubility	Ethanol: 2.4 mg/mL (5.08 mM),Sonication is recommended. DMSO: 117.5 mg/mL (248.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn oil: 10 mg/mL (21.18 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: < 10 mg/mL (21.18 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% (20% SBE- $\beta$ -CD in Saline): < 10 mg/mL (21.18 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+90% Saline: < 10 mg/mL (21.18 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1183 mL	10.5914 mL	21.1829 mL
5 mM	0.4237 mL	2.1183 mL	4.2366 mL
10 mM	0.2118 mL	1.0591 mL	2.1183 mL
50 mM	0.0424 mL	0.2118 mL	0.4237 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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