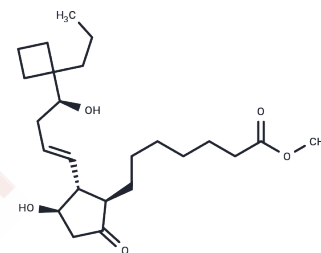


## Butaprost

## Chemical Properties

CAS No. :	69685-22-9
Formula:	C <sub>24</sub> H <sub>40</sub> O <sub>5</sub>
Molecular Weight:	408.57
Storage:	Store at low temperature Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	Butaprost is a selective agonist of the prostaglandin E receptor EP2 that exhibits an EC <sub>50</sub> of 33 nM and a K <sub>i</sub> of 2.4 μM toward the murine EP2 receptor, while showing markedly lower activity against murine EP1, EP3, and EP4 receptors. Butaprost effectively attenuates fibrotic responses by inhibiting the TGF-β/Smad2 signaling pathway, supporting its utility in fibrosis, inflammation, and prostaglandin receptor signaling research.
Targets(IC50)	Prostaglandin Receptor, TGF-beta/Smad
In vitro	In hEP2-HEK293/EBNA cells, the compound (1-100 nM) induces a dose- and time-dependent increase in Nur77 mRNA (approx. 5-fold). In Madin-Darby canine kidney (MDCK) cells, treatment with 50 μM Butaprost counteracts TGF-β signaling by reducing fibronectin (FN) expression, inhibiting Smad2 phosphorylation (p-Smad2), and suppressing EMT [1][2][3][5].
In vivo	In male C57BL/6 mice subjected to unilateral ureteral obstruction (UUO) surgery, Butaprost treatment (1-4 mg/kg; i.p.; twice daily; 7 days) was evaluated for its effects on renal fibrosis. Administration of the compound resulted in a reduction in the gene and protein expression levels of α-smooth muscle actin (α-SMA), fibronectin, and collagen 1A1 (Col1A1). These results indicate that Butaprost is associated with the attenuation of fibrosis development in this obstructive kidney injury model [1].

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4476 mL	12.2378 mL	24.4756 mL
5 mM	0.4895 mL	2.4476 mL	4.8951 mL
10 mM	0.2448 mL	1.2238 mL	2.4476 mL
50 mM	0.049 mL	0.2448 mL	0.4895 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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- Osborne NN, et al. Expression of prostaglandin PGE2 receptors under conditions of aging and stress and the protective effect of the EP2 agonist butaprost on retinal ischemia. *Invest Ophthalmol Vis Sci.* 2009 Jul;50(7):3238-48. doi: 10.1167/iovs.08-3185. Epub 2009 Mar 5.
- Michael Schou Jensen, et al. Activation of the prostaglandin E 2 EP 2 receptor attenuates renal fibrosis in unilateral ureteral obstructed mice and human kidney slices. *Acta Physiol (Oxf).* 2019 Sep;227(1):e13291.
- K Tani, et al. Design and synthesis of a highly selective EP2-receptor agonist. *Bioorg Med Chem Lett.* 2001 Aug 6;11(15):2025-8.

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