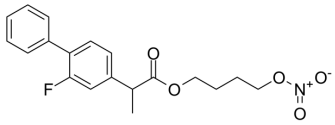
Nitroflurbiprofen

Cat. No.:	HY-U00013
CAS No.:	158836-71-6
Molecular Formula:	$C_{19}H_{20}FNO_5$
Molecular Weight:	361.36
Target:	COX
Pathway:	Immunology/Inflammation
Storage:	Pure form -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Nitroflurbiprofen is a cyclooxygenase (COX) inhibitor with nitric oxide (NO)-donating properties, modulates the increased intrahepatic vascular tone in portal hypertensive cirrhotic rats.
IC_{50} & Target	COX
In Vivo	In vivo hemodynamic measurements (n = 8/condition) and evaluation of the increased intrahepatic resistance by in situ perfusion (n=5/condition) are performed in rats with thioacetamide-induced cirrhosis that receive either Nitroflurbiprofen (45 mg/kg), Flurbiprofen (30 mg/kg, equimolar concentration to Nitroflurbiprofen), or vehicle by intraperitoneal injection 24 hours and 1 hour prior to the measurements. Treatment with Nitroflurbiprofen, an NO-releasing cyclooxygenase inhibitor, improves portal hypertension without major adverse effects in thioacetamide-induced cirrhotic rats by attenuating intrahepatic vascular resistance, endothelial dysfunction, and hepatic hyperreactivity to vasoconstrictors[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [1]	Rats[1] Male Wistar rats, weighing 200-250 g, are used. After 18 weeks of TAA administration, cirrhotic rats are equally (n=8/group) and randomly allocated to one of the following groups: intraperitoneal injection, 24 hours and 1 hour prior to the measurements, with Nitroflurbiprofen (45 mg/kg), Flurbiprofen (30 mg/kg, equimolar concentration to Nitroflurbiprofen), or vehicle (250 µL DMSO:250 µL isotonic saline). The used dose is based on a dose-finding study (n=5 per condition). The concentrations of Nitroflurbiprofen (15 mg/kg) and Flurbiprofen (7.5 mg/kg, equimolar concentration to Nitroflurbiprofen Flurbiprofen) are started, then are increased the dose to Nitroflurbiprofen 22.5 mg/kg and Flurbiprofen 15 mg/kg, and, finally, Nitroflurbiprofen 45 mg/kg and Flurbiprofen 30 mg/kg. The last dose regimen has the most profound hemodynamic effects. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Laleman W, et al. Nitroflurbiprofen, a nitric oxide-releasing cyclooxygenase inhibitor, improves cirrhotic portalhypertension in rats. Gastroenterology. 2007 Feb;132(2):709-19.

Caution: Product has not been fully validated for medical applications. For research use only.

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