

# Oseltamivir (acid)

Catalog No: tcsc0553



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg



## Specifications

**CAS No:**

187227-45-8

**Formula:**

$C_{14}H_{24}N_2O_4$

**Pathway:**

Anti-infection;Metabolic Enzyme/Protease

**Target:**

Influenza Virus;Drug Metabolite

**Purity / Grade:**

>98%

**Solubility:**

H2O :  $\geq$  56 mg/mL (196.94 mM)

**Alternative Names:**

GS 4071;Ro 64-0802;oseltamivir carboxylate

**Observed Molecular Weight:**

284.35

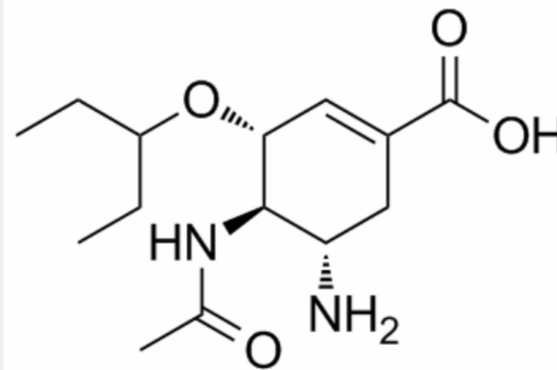
## Product Description

GS 4104, the ethyl ester prodrug of GS 4071, is an inhibitor of **influenza virus neuraminidase** with an **IC<sub>50</sub>** of approximately 100 nM.

IC50 & Target: Influenza A and B<sup>[1]</sup>

**In Vitro:** Oseltamivir acid inhibits virus replication in vitro and in vivo. Influenza B and A/H1N1 viruses appear to be sensitive to Oseltamivir (mean B IC<sub>50</sub> value: 13 nM; mean H1N1 IC<sub>50</sub> value: 1.34 nM), while A/H1N2 and A/H3N2 viruses are more sensitive to Oseltamivir (mean H3N2 IC<sub>50</sub> value: 0.67 nM; mean H1N2 IC<sub>50</sub> value: 0.9 nM)<sup>[1]</sup>. In neuraminidases inhibition assays with influenza A viruses, the median 50% inhibitory concentration (IC<sub>50</sub>) of RWJ-270201 (approximately 0.34 nM) is comparable to that of Oseltamivir carboxylate (0.45 nM) For influenza B virus isolates, the IC<sub>50</sub> of RWJ-270201 (1.36 nM) is comparable to that of Zanamivir (2.7 nM) and less than that of Oseltamivir carboxylate (8.5 nM)<sup>[2]</sup>.

**In Vivo:** Oseltamivir (0.1, 1, or 10 mg/kg/day, twice daily by oral gavage) produces a dose-dependent antiviral effect against Vietnam/1203/04 (VN1203/04) virus. The 5-day regimen at 10 mg/kg/day protects 50% of mice; deaths in this treatment group are delayed and indicated the replication of residual virus after the completion of treatment. Eight-day regimens improved Oseltamivir efficacy, and dosages of 1 and 10 mg/kg/day significantly reduced virus titers in organs and provided 60% and 80% survival rates, respectively<sup>[3]</sup>. In the pharmacokinetic study, after the oral administration of 1,000 mg/kg Oseltamivir, peak plasma concentrations are reached at 2 h postdose for Oseltamivir and 8 h for Oseltamivir carboxylate (OC). Rats are exposed to Oseltamivir over the whole sampling interval and had a ~2.7-fold-higher rate of exposure to OC than Oseltamivir. In CSF, peak concentrations are reached at 2 h postdose for Oseltamivir and 6 h for OC. CSF/plasma exposure ratios (AUC<sub>0-8 h</sub>) are ~0.07 for Oseltamivir and 0.007 for OC. In perfused brain samples, peak concentrations are reached at 8 h postdose for Oseltamivir and 6 h for OC. Brain/plasma exposure ratios (AUC<sub>0-8 h</sub>) of ~0.12 for Oseltamivir and 0.01 for OC are recorded. Corresponding CSF/brain exposure ratios ranged between ~0.55 and 0.64 for both analytes. A further group of animals that received a single oral administration of Oseltamivir at a lower dose produced similar results<sup>[4]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!