

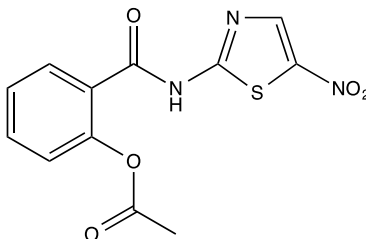
Catalog # 10-4633

Nitazoxanide

CAS# 55981-09-4

O-[N-(5-Nitrothiazol-2-yl)carbamoyl]phenyl acetate; NTZ

Lot # FBS1046



Nitazoxanide has been found to inhibit Wnt signaling independent of adenomatous polyposis coli (APC) – it targets peptidyl arginine deiminase 2 (PAD2) resulting in increased citrullination of β -catenin.¹ Nitazoxanide is a clinically relevant antiparasitic agent.² It has since been repurposed as a broad-spectrum antiviral agent that is active against many RNA and DNA viruses including influenza, Hepatitis B and C, RSV, coronavirus, dengue and others.³ Its antiparasitic activity is believed to be due to inhibition of pyruvate:ferredoxin/flavodoxin oxidoreductases.⁴ Antiviral activity involves activation of protein kinase activated by double-stranded RNA (PKR) leading to phosphorylation of eukaryotic initiation factor 2 alpha (eIF2 α).⁵

- 1) Qu et al. (2018), *Small molecule promotes β -catenin citrullination and inhibits Wnt signaling in cancer*; Nat.Chem.Biol. **14** 94
- 2) White (2004) *Nitazoxanide: a new broad spectrum antiparasitic agent*; Expert Rev.Anti.Infect.Ther. **2** 43
- 3) Rossignol (2014) *Nitazoxanide: a first-in-class broad-spectrum antiviral agent*; Antiviral Res. **110** 94
- 4) Hoffman et al. (2007) *Antiparasitic Drug Nitazoxanide Inhibits the Pyruvate Oxidoreductases of Helicobacter pylori, Selected anaerobic Bacteria and Parasites, and Campylobacter jejuni*; Antimicrob.Agents Chemother. **51** 868
- 5) Elazar et al. (2009), *The anti-hepatitis C agent nitazoxanide induces phosphorylation of eukaryotic initiation factor 2alpha via protein kinase activated by double-stranded RNA activation*; Gastroenterology **137** 1827

PHYSICAL DATA

Molecular Weight:	307.28
Molecular Formula:	C ₁₂ H ₉ N ₃ O ₅ S
Purity:	99% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>50 mg/mL)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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