

## Volanesorsen

## Chemical Properties

CAS No. :	915430-78-3
Formula:	
Molecular Weight:	7165
Storage:	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	Volanesorsen (ISIS 304801) is a chemically stabilized antisense oligonucleotide that selectively inhibits apolipoprotein CIII messenger RNA, resulting in reduced triglyceride levels and improved insulin sensitivity, Volanesorsen is actively studied as a targeted nucleic acid therapeutic strategy for hypertriglyceridemia, familial chylomicronemia syndrome, and type 2 diabetes.
Targets(IC50)	Apolipoprotein
In vivo	In human apo-CIII transgenic mice, Volanesorsen treatment (1.5-50 mg/kg, i.p., weekly) for 2 weeks demonstrated a dose-dependent reduction in hepatic human apo-CIII mRNA, plasma apo-CIII protein, and plasma triglycerides (TG). In primate models, efficacy was also observed. specifically, in Cynomolgus monkeys, subcutaneous administration (4-40 mg/kg, weekly) for 13 weeks reduced liver apoC-III mRNA levels in a dose-responsive manner. Furthermore, in hypertriglyceridemic Rhesus monkeys, treatment with 10 mg/kg (s.c., weekly) for 10 weeks lowered plasma triglyceride levels [1][2]

## Solubility Information

Solubility	H2O: 40 mg/mL (5.58 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.1396 mL	0.6978 mL	1.3957 mL
5 mM	0.0279 mL	0.1396 mL	0.2791 mL
10 mM	0.014 mL	0.0698 mL	0.1396 mL
50 mM	0.0028 mL	0.014 mL	0.0279 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

Graham MJ, et al. Antisense oligonucleotide inhibition of apolipoprotein C-III reduces plasma triglycerides in rodents, nonhuman primates, and humans. *Circ Res.* 2013;112(11):1479-1490.

Gaudet D, et al. Targeting APOC3 in the familial chylomicronemia syndrome. *N Engl J Med.* 2014;371(23):2200-2206.

Post N, et al. Metabolism and Disposition of Volanesorsen, a 2'-O-(2 methoxyethyl) Antisense Oligonucleotide, Across Species. *Drug Metab Dispos.* 2019;47(10):1164-1173.

Lightbourne M, et al. Volanesorsen, an Antisense Oligonucleotide to Apolipoprotein-CIII, Decreases Triglycerides and Increases Lipoprotein Lipase Activity in Partial Lipodystrophy. *Journal of the Endocrine Society*, 2021, 5 (Supplement\_1): A305-A305.

Paik J, et al. Volanesorsen: first global approval. *Drugs*, 2019, 79(12): 1349-1354.

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