

rTRD01

## Chemical Properties

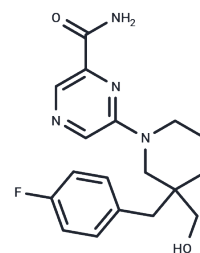
CAS No. : 1332175-56-0

Formula: C<sub>18</sub>H<sub>21</sub>FN<sub>4</sub>O<sub>2</sub>

Molecular Weight: 344.38

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	rTRD01 is a small-molecule TDP-43 ligand that binds the RRM1 and RRM2 domains of TDP-43 and partially disrupts its interaction with the pathogenic hexanucleotide RNA repeat of the c9orf72 gene, supporting the application of rTRD01 in mechanistic studies of RNA binding dysregulation in neurodegenerative disease research.
Targets(IC50)	Others
In vitro	In biophysical assays using Microscale Thermophoresis, rTRD01 bound to the TDP-43 RRM1-RRM2 construct with a K <sub>d</sub> of 89 μM. This interaction modulated TDP-43 binding to specific RNA sequences (UG-rich repeats), preventing aberrant protein-RNA interactions associated with aggregation [1].
In vivo	In flies expressing human TDP-43, which typically display locomotor defects, treatment with rTRD01 led to a reduction in motor dysfunctions [1].

## Solubility Information

Solubility	DMSO: 80 mg/mL (232.3 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.9038 mL	14.5188 mL	29.0377 mL
5 mM	0.5808 mL	2.9038 mL	5.8075 mL
10 mM	0.2904 mL	1.4519 mL	2.9038 mL
50 mM	0.0581 mL	0.2904 mL	0.5808 mL

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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

François-Moutal L, et al. Small Molecule Targeting TDP-43's RNA Recognition Motifs Reduces Locomotor Defects in a Drosophila Model of Amyotrophic Lateral Sclerosis (ALS). ACS Chem Biol. 2019 Sep 20;14(9):2006-2013.

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