

Product Data Sheet

Product Name: BRD 7552

Cat. No.: GC10233

Chemical Properties

Cas. No. 1137359-47-7

Chemical Name ethyl 4-((((((2R,3R,4S,5R,6S)-4,5-bis((benzo[d][1,3]dioxol-5-ylcarbamoyl)oxy)-2-(hydroxymethyl)-6-methoxytetrahydro-2H-pyran-3-yl)oxy)carbonyl)amino)benzoate

SMILES O=C(OCC)C1=CC=C(NC(O[C@@H]2[C@@H](CO)O[C@H](OC)[C@H](OC(NC3=CC=C(C(OCO4)C4=C3)=O)[C@H]2OC(NC5=CC=C(OCO6)C6=C5)=O)=O)C=C1

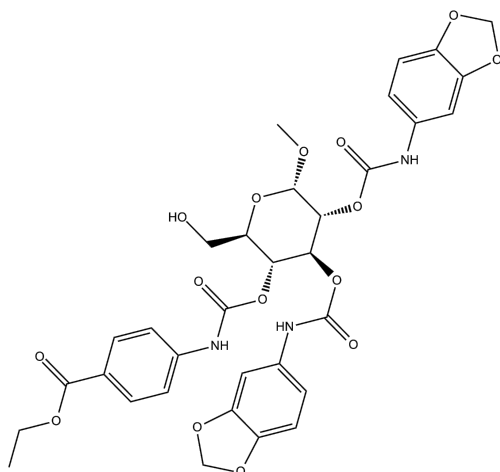
Formula $C_{33}H_{33}N_3O_{15}$ M.Wt 711.63

Solubility $\geq 71.2\text{mg/mL}$ in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

BRD7552 is an inducer of pancreatic and duodenal homeobox 1 (PDX1) [1][2].

PDX1 is a member of the homeodomain-containing transcription factor family. It is a key transcription factor important for both mature β cell function and pancreas development [1]. PDX1 is a master

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

regulatory transcription factor and required for β -cell transdifferentiation [2].

In human cells, BRD7552 upregulated the expression of PDX1 via epigenetically altering PDX1 promoter area [3]. BRD7552 was discovered as a PDX1 inducer in a cell-based phenotypic screening assay. It was used to induce the expression of PDX1. In PANC-1 cells, BRD7552 up-regulated mRNA and protein levels of PDX1. BRD7552 changed epigenetic markers within the PDX1 promoter region that was consistent with transcriptional activation. In cell culture, BRD7552 partially complemented PDX1, enhancing insulin expression induced by the introduction of three genes in PANC-1 cells [2]. In PANC-1 cells, nine-day treatment with BRD7552 dose-dependently increased insulin mRNA expression. In primary human islet cells, three of five donor samples treated with BRD7552 showed significantly dose-dependent induction of PDX1 after 3 or 5 days and of insulin after a 5-day treatment [1]. BRD7552 was capable of inducing the expression of PDX1 in the human PANC-1 ductal cell line [4].

No in vivo application data of this product had been found.

References:

- [1]. Yuan Y, Hartland K, Boskovic Z, et al. A small-molecule inducer of PDX1 expression identified by high-throughput screening[J]. Chemistry & biology, 2013, 20(12): 1513-1522.
- [2]. Yuan Y. Small-Molecule Modulators of Pancreatic Ductal Cells: Histone Methyltransferases and β -Cell Transdifferentiation [D]. 2013.
- [3]. Zhao Y. Developing Therapies with Functional Beta Cells to Treat Diabetes[J]. International Journal of Translational Science, 2015, 1: 41-66.
- [4]. Fodor A, Cozma A, Karnieli E. Personalized epigenetic management of diabetes[J]. Personalized Medicine, 2015, 12(5): 497-514.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA