# Luseogliflozin hydrate

**Cat. No.:** HY-10449A

**CAS No.:** 1152425-66-5

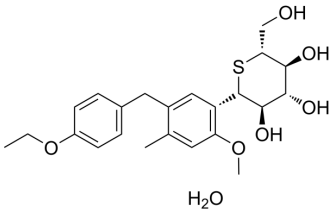
**Molecular Formula:** $C_{23}H_{32}O_7S$

**Molecular Weight:** 452.56

**Target:** SGLT

**Pathway:** Membrane Transporter/Ion Channel

**Storage:** Please store the product under the recommended conditions in the Certificate of Analysis.




## BIOLOGICAL ACTIVITY

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| **Description** | Luseogliflozin (TS 071) hydrate is a selective potent and orally active second-generation sodium-glucose co-transporter 2 ( SGLT2) inhibitor with an $IC_{50}$ of 2.26 nM. Luseogliflozin hydrate can be used for the research of type 2 diabetes mellitus (T2DM)[1][2]. |
| **$IC_{50}$ & Target** | SGLT2 |

**In Vitro**

Luseogliflozin can increase beta cell proliferation through the activation of the FoxM1/PLK1/CENP-A pathway via humoral factors thats act in an insulin/IGF-1 receptor-independent manner. Luseogliflozin increases beta cell proliferation in OSI-906-treated mice[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

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| Cell Line: | βIRKO, IRS1KO and IRS2KO beta cells |
| Concentration: | 100 nM |
| Incubation Time: | 24 and 48 hours |
| Result: | Cell Viability Assay[2]Treating cells with serum from the OSI-906 (200 nM) or OSI-906+Luseogliflozin(100 nM) group led to significantly increased cell viability in the latter group in the control, IRS1KO, IRS2KO, as well as the insulin receptor (IR)-deficient βIRKO beta cells. |

**In Vivo**

SGLT2 inhibition with Luseogliflozin (10 mg/kg/daily; oral gavage) significantly ameliorates hyperglycaemia, but not hyperinsulinaemia, in the OSI-906(45 mg/kg)-treated mice. Luseogliflozin ameliorates hyperglycaemia induced by OSI-906[2] .

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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| Animal Model: | C57BL/6J male mice aged 8 weeks old[2] |
| Dosage: | 10 mg/kg/daily |
| Administration: | Oral gavage; for 7 days between 08:00 and 09:00 hours |

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|---|---|
| Result: | Treatment significantly ameliorated the OSI-906 (45 mg/kg)-induced hyperglycaemia. |

## REFERENCES


[1]. Anthony Markham,et al. Luseogliflozin: first global approval. Drugs. 2014 Jun;74(8):945-50.

[2]. Jun Shirakawa,et al. Luseogliflozin increases beta cell proliferation through humoral factors that activate an insulin receptor- and IGF-1 receptor-independent pathway. Diabetologia. 2020 Mar;63(3):577-587.





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