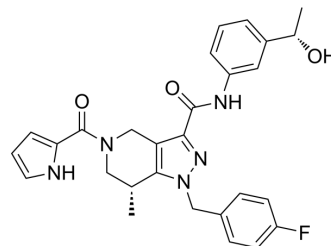


GSK321

| | |
|--------------------|--|
| Cat. No.: | HY-18948 |
| CAS No.: | 1816331-63-1 |
| Molecular Formula: | C ₂₈ H ₂₈ FN ₅ O ₃ |
| Molecular Weight: | 501.55 |
| Target: | Isocitrate Dehydrogenase (IDH) |
| Pathway: | Metabolic Enzyme/Protease |
| Storage: | 4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light) |



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (498.45 mM; Need ultrasonic)

| Concentration | Mass | | | |
|---------------|-----------|-----------|------------|--|
| | 1 mg | 5 mg | 10 mg | |
| 1 mM | 1.9938 mL | 9.9691 mL | 19.9382 mL | |
| 5 mM | 0.3988 mL | 1.9938 mL | 3.9876 mL | |
| 10 mM | 0.1994 mL | 0.9969 mL | 1.9938 mL | |

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

GSK321 is a potent inhibitor of mutant isocitrate dehydrogenase 1 (IDH1) enzymes. GSK321 has high inhibitory and selectivity for mutant IDH1 enzymes. GSK321 can be used for the research of acute myeloid leukemia^{[1][2]}.

IC₅₀ & Target

IC₅₀ for mutant IDH1 enzymes: 4.6 nM (R132H), 3.8 nM (R132C), 2.9 nM (R132G)^[1].

In Vitro

GSK321 has high inhibitory for mutant IDH1 enzymes, with IC₅₀ values of 4.6 nM against R132H, 3.8 nM against R132C and 2.9 nM against R132G, respectively^[1].

GSK321 (0, 0.5, 5 μM; 48 h) induces markedly decreased H3K9me2 levels^[1].

GSK321 decreases intracellular 2-HG and affects proliferation of primary IDH1 mutant AML cells^[1].

GSK321 has inhibition activity for mutant IDH1 that overcomes the pathognomonic differentiation block of AML cells, and induces myeloid differentiation of IDH1 mutant cells at the level of leukemic blasts and more stem-like cells^[1].

GSK321 leads to genome-wide DNA cytosine hypomethylation in IDH1-mutant AML cells^[1].

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

Western Blot Analysis^[1]

| | |
|------------|---------------|
| Cell Line: | HT-1080 cells |
|------------|---------------|

| | |
|---|--|
| Concentration: | 0, 0.5, 5 μ M |
| Incubation Time: | 48 h |
| Result: | Lead to the reduction of histone H3K9 dimethylation (H3K9me2). |
| Cell Proliferation Assay ^[1] | |
| Cell Line: | IDH1 mutant AML cells |
| Concentration: | 3 μ M |
| Incubation Time: | 15 days |
| Result: | Showed a significant, initial increase in cell numbers (2-fold to 15-fold) in IDH1 mutant AML cells. |
| Cell Cycle Analysis ^[1] | |
| Cell Line: | IDH1 mutant AML cells |
| Concentration: | |
| Incubation Time: | 7 days |
| Result: | Observed a reproducible and significant decrease in quiescent (G0)-phase cells in R132G IDH1 and R132C IDH1 AML cells. |

CUSTOMER VALIDATION

- EMBO Rep. 2023 Aug 29;e56009.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Ujunwa C Okoye-Okafor, et al. New IDH1 mutant inhibitors for treatment of acute myeloid leukemia. Nat Chem Biol. 2015 Nov;11(11):878-86.
- [2]. Stuart Jones, et al. Discovery and Optimization of Allosteric Inhibitors of Mutant Isocitrate Dehydrogenase 1 (R132H IDH1) Displaying Activity in Human Acute Myeloid Leukemia Cells. J Med Chem. 2016 Dec 22;59(24):11120-11137.

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

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