# CDK4/6-IN-7

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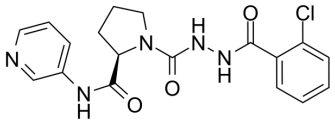
| **Cat. No.:** | HY-143257 |
| **CAS No.:** | 2649120-20-5 |
| **Molecular Formula:** | $C_{18}H_{18}ClN_5O_3$ |
| **Molecular Weight:** | 387.82 |
| **Target:** | CDK |
| **Pathway:** | Cell Cycle/DNA Damage |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

**Description**

CDK4/6-IN-7 is a potent, selective and orally active CDK4/6 inhibitor, with $IC_{50}$s of 1.58 and 4.09 nM, respectively. CDK4/6-IN-7 can be used for the research of breast cancer[1].

**$IC_{50}$ & Target**

| CDK4 | CDK6 |
|---|---|
| 1.58 nM ($IC_{50}$) | 4.09 nM ($IC_{50}$) |

**In Vitro**

CDK4/6-IN-7 (compound 7c) (0.1-656.1 μM; 48 h) inhibits the viability of MCF-7 cells, with an $IC_{50}$ of 0.92 μM[1].

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

Cell Proliferation Assay[1]

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|---|---|
| Cell Line: | MCF-7 cells |
| Concentration: | 0.1, 0.3, 0.9, 2.7, 8.1, 24.3, 72.9, 218.7, 656.1 μM |
| Incubation Time: | 48 hours |
| Result: | Inhibited MCF-7 cells growth, with an $IC_{50}$ of 0.92 μM. |

**In Vivo**

CDK4/6-IN-7 (compound 7c) (50 mg/kg; p.o. once daily for 7d) strongly reduces tumor growth rates in MCF-7 tumor-bearing mice[1].

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

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| Animal Model: | Female nude mice (5 weeks) bearing MCF-7 tumor[1] |
| Dosage: | 50 mg/kg |
| Administration: | Oral gavage once daily for 7 days |
| Result: | Inhibited tumor growth with the tumor inhibition rate of 57.68% and was well tolerated. |

## REFERENCES

[1]. Liang JW, et, al. Synthesis and identification of a novel skeleton of N-(pyridin-3-yl) proline as a selective CDK4/6 inhibitor with anti-breast cancer activities. Bioorg Chem. 2022 Feb;119:105547.



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