

hCAIX/XII-IN-5

## Chemical Properties

CAS No. :

Formula: C<sub>18</sub>H<sub>13</sub>NO<sub>3</sub>

Molecular Weight: 291.3

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   | hCAIX/XII-IN-5 (Coumarin 9a) is an inhibitor of carbonic anhydrase (CA) with excellent selectivity for hCA IX/XII, displaying $K_{is}$ of 93.3 nM and 85.7 nM over hCA I and hCA II, respectively. It exhibits anti-proliferative activities in cancer cells, delaying the cell cycle and inducing apoptosis [1].  |
| Targets(IC50) | Apoptosis,Others,Carbonic Anhydrase  |
| In vitro      | Treatment with hCAIX/XII-IN-5 (2.36-32.17 $\mu$ M) has demonstrated anti-proliferative effects on MCF-7 and PANC-1 cell lines under both normoxic and hypoxic conditions. At a specific concentration of 2.69 $\mu$ M over 24 hours, this compound significantly increases the accumulation of MCF-7 cells in the Sub-G1 phase and induces arrest in the G2-M phase, indicating a halt in cell cycle progression. Furthermore, the same treatment markedly elevates the proportion of annexin V-FITC-positive apoptotic MCF-7 cells, encompassing both early and late stages of apoptosis (UR+LR), which suggests an enhancement of programmed cell death. The results from Cell Proliferation and Apoptosis Analysis clearly demonstrate the compound's potential in inhibiting cell growth and inducing apoptosis in cancerous cells, with a particular efficacy noted under varying oxygen levels, as seen in the differential IC50 values under normoxic versus hypoxic conditions for both tested cell lines. |

### Preparing Stock Solutions

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|       | <b>1mg</b> | <b>5mg</b> | <b>10mg</b> |
|-------|------------|------------|-------------|
| 1 mM  | 3.4329 mL  | 17.1644 mL | 34.3289 mL  |
| 5 mM  | 0.6866 mL  | 3.4329 mL  | 6.8658 mL   |
| 10 mM | 0.3433 mL  | 1.7164 mL  | 3.4329 mL   |
| 50 mM | 0.0687 mL  | 0.3433 mL  | 0.6866 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.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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