# KH-3

**Cat. No.:** HY-134601

**CAS No.:** 1215115-03-9

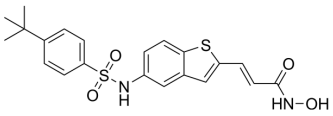
**Molecular Formula:** $C_{21}H_{22}N_2O_4S_2$

**Molecular Weight:** 430.54

**Target:** HuR

**Pathway:** Epigenetics

**Storage:** 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (232.27 mM; Need ultrasonic)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.3227 mL | 11.6133 mL | 23.2266 mL |
| | 5 mM | 0.4645 mL | 2.3227 mL | 4.6453 mL |
| | 10 mM | 0.2323 mL | 1.1613 mL | 2.3227 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.81 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.81 mM); Suspended solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

KH-3 is a potent RNA-binding protein Hu antigen R (HuR) inhibitor with an $IC_{50}$ value of 0.35 μM. KH-3 has anti-proliferative activity. KH-3 suppresses breast cancer cell invasion as well as delays the initiation of lung colonies by disrupting HuR-FOXQ1 mRNA interaction[1].

**In Vitro**

KH-3 (0-100 μM; 48 h; human breast cancer cell lines) blocks HuR function through decrease Bcl-2, Mis2 and XIAP mRNA levels and inhibits breast cancer cells growth in a dose dependent manner[1].
KH-3 (0-10 μM; 0-24 h; MDA-MB-231 and SUM159 cells) inhibits breast cancer cell migration and invasion in a dose dependent manner[1].
KH-3 (0-10 μM; MDA-MB-231 and SUM159 cells) inhibits the interaction between HuR and FOXQ1 mRNA and decreases the amount of HuR protein pulled down by biotinylated $ARE^{FOXQ1}$ RNA oligomer[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | MDA-MB-231 cells |
| Concentration: | 5 and 10 μM |
| Incubation Time: | 48 hours |
| Result: | Reduced the protein expression levels of Bcl-2, Msi2 and XIAP. |

**In Vivo**

KH-3 (100 mg/kg; i.p.; three times a week for three weeks; female athymic NCr-nu/nu mice and BALB/c mice) inhibits breast cancer growth and metastasis in vivo[1].

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

| | |
|---|---|
| Animal Model: | Female athymic NCr-nu/nu mice of MDA-MB-231 orthotopic xenograft and BALB/c mice of MDA-MB-231 orthotopic xenograft[1] |
| Dosage: | 100 mg/kg |
| Administration: | Intraperitoneal injection; three times a week for three weeks |
| Result: | Inhibited tumor growth, resulting in 60% tumor regression after three-week treatment and delayed the initiation of pulmonary metastases.<br>Reduced the protein expression levels of HuR targets in tumor tissues as well as the induction of E-cadherin expression. |

## REFERENCES

[1]. Wu X, et, al. Targeting the interaction between RNA-binding protein HuR and FOXQ1 suppresses breast cancer invasion and metastasis. Commun Biol. 2020 Apr 24;3(1):193.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA