EGFR/HER2-IN-5

Cat. No.: HY-147994

CAS No.: 1879071-97-2

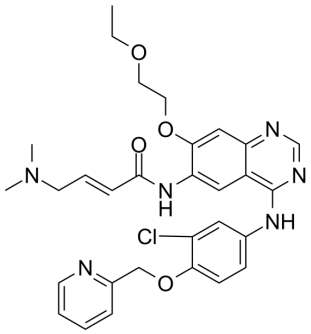
Molecular Formula: $C_{30}H_{33}ClN_6O_4$

Molecular Weight: 577.07

Target: EGFR

Pathway: JAK/STAT Signaling; Protein Tyrosine Kinase/RTK

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



BIOLOGICAL ACTIVITY

Description

EGFR/HER2-IN-5 (compound 6h) is an orally active irreversible dual inhibitor. EGFR/HER2-IN-5 inhibits EGFR with an IC_{50} value of 1.01 nM and demonstrates potent EGFR kinase inhibitory activities on L858R and T790M mutations. EGFR/HER2-IN-5 has potent antitumor efficacy in vivo and can be used for lung cancer research[1].

IC_{50} & Target

EGFR	HER2
0.6 nM (IC_{50})	0.6 nM (IC_{50})

In Vitro

EGFR/HER2-IN-5 (compound 6h) (0-10 μM, 72 hours) shows good anti-proliferative activity against lung cancer, where the effect against mutant lung cancer HCC 827 is superior to that of NCI-H1975 and A431[1].

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

Cell Proliferation Assay[1]

Cell Line:	Human non-small cell lung cancer cell lines NCI-H1975 (T790M), HCC 827 (L858R), Human epithelial carcinoma cell lines A431
Concentration:	0-10 μM
Incubation Time:	72 hour
Result:	Inhibited NCI-H1975 cells, HCC 827 cells, A431 cells with the IC_{50}values of 60.6 nM, 1.2 nM and 288.3 nM respectively.

In Vivo

EGFR/HER2-IN-5 (compound 6h) (oral gavage; 99.5 mg/kg, 24.9 mg/kg, 6.2 mg/kg; every other day or every day; 25 days) has good cancer suppression effect in a dose-dependent manner in the constructed NCI-H1975 tumor xenograft model[1].

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

Animal Model:	BALB/c nude mice, female, 6–7 weeks of age with NCI-H1975 tumor xenograft[1]
Dosage:	99.5 mg/kg, 24.9 mg/kg, 6.2 mg/kg
Administration:	Oral gavage; 99.5 mg/kg and 24.9 mg/kg for every other day for 25 days; 6.2 mg/kg for every day for 25 days

Result:	Inhibited 84.11% of tumor xenografts growth at 99.5 mg/kg, 65.72% at 24.9 mg/kg, and 47% at 6.2 mg/kg in nude mice.

Animal Model:	BALB/c nude mice, female, 6-7 weeks of age with NCI-H1975 tumor xenograft[1]
Dosage:	10 mg/kg
Administration:	Oral gavage; 10 mg/kg; 25 days
Result:	The pharmacokinetic parameters of EGFR/HER2-IN-5 (compound 6h) oral (10 mg/kg)

Parameter	
Oral T_{max}	8 h
C_{max}	39.4 μg/L
AUC_{0-a}	780 μg/L*h
IV	5 mg/kg
half life	4.9 h
oral bioavailability	28.8%

REFERENCES

[1]. Debasis Das, et.al. In vivo efficacy studies of novel quinazoline derivatives as irreversible dual EGFR/HER2 inhibitors, in lung cancer xenografts (NCI-H1975) mice models. Bioorg Chem. 2020 Jun;99:103790.

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