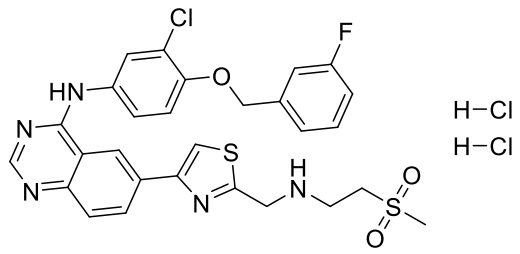
Product data sheet

MedKoo Cat#: 531893 Name: GW 583340 dihydrochloride CAS: 1173023-85-2 Chemical Formula: $C_{28}H_{27}Cl_3FN_5O_3S_2$ Molecular Weight: 671.0244	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

GW 583340 dihydrochloride is a potent dual EGFR/ErbB2 tyrosine kinase inhibitor (IC50 values are 0.01 and 0.014 μM respectively). GW 583340 dihydrochloride selectively inhibits growth of human tumor cells overexpressing EGFR and ErbB2 (IC50 values are 0.11 μM for inhibition of HN5, N87 and BT474 tumor cell lines vs. > 30 μM for inhibition of non-tumor cell line HFF).

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	67.1	100.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.49 mL	7.45 mL	14.90 mL
5 mM	0.30 mL	1.49 mL	2.98 mL
10 mM	0.15 mL	0.75 mL	1.49 mL
50 mM	0.03 mL	0.15 mL	0.30 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Sodani K, Tiwari AK, Singh S, Patel A, Xiao ZJ, Chen JJ, Sun YL, Talele TT, Chen ZS. GW583340 and GW2974, human EGFR and HER-2 inhibitors, reverse ABCG2- and ABCB1-mediated drug resistance. Biochem Pharmacol. 2012 Jun 15;83(12):1613-22. doi: 10.1016/j.bcp.2012.02.028. Epub 2012 Mar 7. PMID: 22414725; PMCID: PMC3360928.
2. Aird KM, Allensworth JL, Batinic-Haberle I, Lyerly HK, Dewhirst MW, Devi GR. ErbB1/2 tyrosine kinase inhibitor mediates oxidative stress-induced apoptosis in inflammatory breast cancer cells. Breast Cancer Res Treat. 2012 Feb;132(1):109-19. doi: 10.1007/s10549-011-1568-1. Epub 2011 May 11. PMID: 21559822; PMCID: PMC3734382.

In vivo study

1. Gaul MD, Guo Y, Affleck K, Cockerill GS, Gilmer TM, Griffin RJ, Guntrip S, Keith BR, Knight WB, Mullin RJ, Murray DM, Rusnak DW, Smith K, Tadepalli S, Wood ER, Lackey K. Discovery and biological evaluation of potent dual ErbB-2/EGFR tyrosine kinase inhibitors: 6-thiazolylquinazolines. Bioorg Med Chem Lett. 2003 Feb 24;13(4):637-40. doi: 10.1016/s0960-894x(02)01047-8. PMID: 12639547.

7. Bioactivity

Biological target:

Potent dual EGFR/ErbB2 inhibitor; orally active.

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In vitro activity

GW583340 and GW2974 significantly decreased the IC_{50} values of MX in both ABCG2-482-R2 and ABCG2-482-T7 cell lines in a concentration dependent manner (Table 1). In addition, the reversal effect produced by GW583340 at 5 μM was comparable to the effect produced by 5 μM of lapatinib and 5 μM of FTC (Table 1).

Reference: Biochem Pharmacol. 2012 Jun 15;83(12):1613-22. https://pubmed.ncbi.nlm.nih.gov/22414725/

In vivo activity

Using xenograft models of the same cell lines, this study found that the compounds (including GW583340) given orally inhibited in vivo tumor growth significantly compared with control animals.

Reference: Bioorg Med Chem Lett. 2003 Feb 24;13(4):637-40. https://pubmed.ncbi.nlm.nih.gov/12639547/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.