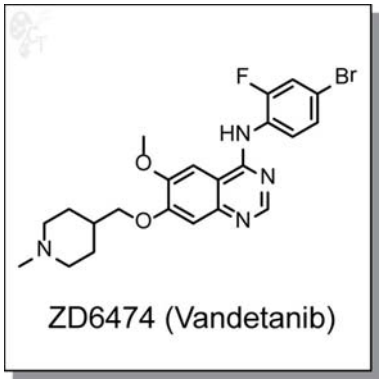
# Product Specification Sheet

**Product Name:** ZD6474 (Vandetanib)

**Catalog Number:** C9364



ZD6474 (Vandetanib)

**Technical information:**

| | |
|---|---|
| Chemical Formula: | $C_{22}H_{24}BrFN_4O_2$ |
| CAS #: | 443913-73-3 |
| Molecular Weight: | 475.35 |
| Purity: | > 98% |
| Appearance: | White solid |
| Solubility: | Soluble in DMSO up to 40 mM |
| Chemical Name: | N-(4-bromo-2-fluorophenyl)-6-methoxy-7-((1-methylpiperidin-4-yl)methoxy)quinazolin-4-amine |
| Storage: | Store solid powder at 4°C desiccated; Store DMSO solution at -20°C. |
| Shelf Life: | In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition. |

**Handling:**

- To make 10 mM stock solution, add 0.21mL of DMSO for each mg of ZD6474 (Vandetanib).
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

**Biological Activity:**

Vandetanib (ZD6474) is an orallly-bioavailable, ATP-competitive, quinazoline-based inhibitor of VEGFR2 that has been shown to inhibit both VEGF-induced signalling in endothelial cells and tumor-induced angiogenesis. [1] Vandetanib inhibits VEGFR2, VEGFR3, EGFR, and RET at IC50s of 40 nM, 110 nM, 500 nM, and 130 nM, respectively. It has been found to inhibit cell proflieration of VEGFR-stimulated cells (IC50 60 nM) and EGFR-stimulated HUVEC proliferation (IC50 170 nM). [2]

Vandetanib shows robust inhibition of VEGF-stimulated VEGFR2 phosphorylation, Erk-1/2 phosphorylation, as well as endothelial cell proliferation at doses less than 100 nM. [3]

More recently, Vandetanib has been shown to antagonize ABCC1- and ABCG2-mediated MDR by inhibition of transport function. ABCG2, expressed in a wide variety of cancer stem cells, is inhibited by vandetanib, potentially reversing MDR at low concentrations. [4]

**Reference:**

1. Ryan et al., Clin. Cancer 2005, 92, S6-S13.
2. Flanigan et al., Current status of vandetanib (ZD6474) in the treatment of non-small cell lung cancer. Biologics: Targets and Therapy, 2010, 4, 237-243. Pubmed ID: 20859451
3. McCarty et al., ZD6474, a vascular endothelial growth factor receptor tyrosine kinase inhibitor with additional activity against epidermal growth factor receptor tyrosine kinase, inhibits orthotopic growth and angiogenesis of gastric cancer. Mol. Cancer Ther. 2004, 3(9), 1041-1048. Pubmed ID: 15367698
4. Zheng et al., Vandetanib (Zactima, ZD6474) antagonizes ABCC1- and ABCG2-mediated multidrug resistance by inhibition of their transport function. PLoSONE, 2009, 4(4), e5172. Pubmed ID: 19390592

To reorder: http://www.cellagentech.com/ZD6474-Vandetanib/

For Technical Support: technical@cellagentech.com

*Chemicals are sold for research use only, not for clinical or diagnostic use.*