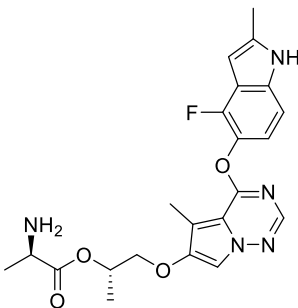


# Product data sheet



MedKoo Cat#: 200570 Name: Brivanib alaninate CAS#: 649735-63-7 (alaninate) Chemical Formula: C <sub>22</sub> H <sub>24</sub> FN <sub>5</sub> O <sub>4</sub> Exact Mass: 441.18123 Molecular Weight: 441.45		
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:

Brivanib alaninate is the alaninate ester of a vascular endothelial growth factor receptor 2 (VEGFR2) inhibitor with potential antineoplastic activity. Brivanib strongly binds to and inhibits VEGFR2, a tyrosine kinase receptor expressed almost exclusively on vascular endothelial cells; inhibition of VEGFR2 may result in inhibition of tumor angiogenesis, inhibition of tumor cell growth, and tumor regression.

## 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	94.0	212.93
Ethanol	88.0	199.34

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.27 mL	11.33 mL	22.65 mL
5 mM	0.45 mL	2.27 mL	4.53 mL
10 mM	0.23 mL	1.13 mL	2.27 mL
50 mM	0.05 mL	0.23 mL	0.45 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. Li L, Zhu M, Wu W, Qin B, Gu J, Tu Y, Chen J, Liu D, Shi Y, Liu X, Sang A, Ding D. Brivanib, a multitargeted small-molecule tyrosine kinase inhibitor, suppresses laser-induced CNV in a mouse model of neovascular AMD. J Cell Physiol. 2020 Feb;235(2):1259-1273. doi: 10.1002/jcp.29041. Epub 2019 Jul 4. PMID: 31270802.
2. Nakamura I, Zakharia K, Banini BA, Mikhail DS, Kim TH, Yang JD, Moser CD, Shaleh HM, Thornburgh SR, Walters I, Roberts LR. Brivanib attenuates hepatic fibrosis in vivo and stellate cell activation in vitro by inhibition of FGF, VEGF and PDGF signaling. PLoS One. 2014 Apr 7;9(4):e92273. doi: 10.1371/journal.pone.0092273. Erratum in: PLoS One. 2015;10(11):e0142355. PMID: 24710173; PMCID: PMC3977817.

### In vivo study

1. Li L, Zhu M, Wu W, Qin B, Gu J, Tu Y, Chen J, Liu D, Shi Y, Liu X, Sang A, Ding D. Brivanib, a multitargeted small-molecule tyrosine kinase inhibitor, suppresses laser-induced CNV in a mouse model of neovascular AMD. J Cell Physiol. 2020 Feb;235(2):1259-1273. doi: 10.1002/jcp.29041. Epub 2019 Jul 4. PMID: 31270802.
2. Nakamura I, Zakharia K, Banini BA, Mikhail DS, Kim TH, Yang JD, Moser CD, Shaleh HM, Thornburgh SR, Walters I, Roberts LR. Brivanib attenuates hepatic fibrosis in vivo and stellate cell activation in vitro by inhibition of FGF, VEGF and PDGF signaling.

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PLoS One. 2014 Apr 7;9(4):e92273. doi: 10.1371/journal.pone.0092273. Erratum in: PLoS One. 2015;10(11):e0142355. PMID: 24710173; PMCID: PMC3977817.

## 7. Bioactivity

### Biological target:

Brivanib alaninate (BMS-582664) is an ATP-competitive inhibitor against VEGFR2 with an IC<sub>50</sub> of 25 nM; has moderate potency against VEGFR-1 and FGFR-1, but more than 240-fold against PDGFR $\beta$ .

### In vitro activity

In vitro cell experiments demonstrated that brivanib inhibited the proliferation, migration and tube formation of microvascular endothelial cells.

Reference: J Cell Physiol. 2020 Feb;235(2):1259-1273. <https://pubmed.ncbi.nlm.nih.gov/31270802/>

### In vivo activity

After in vivo induction with BDL, CCl<sub>4</sub>, and TAA, mice treated with brivanib showed reduced liver fibrosis and decreased expression of collagen I $\alpha$ 1 and  $\alpha$ -smooth muscle actin in the liver.

Reference: PLoS One. 2014 Apr 7;9(4):e92273. <https://pubmed.ncbi.nlm.nih.gov/24710173/>

*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.*