

# Product data sheet



MedKoo Cat#: 206188 Name: Prinaberel CAS: 524684-52-4 Chemical Formula: C <sub>15</sub> H <sub>10</sub> FNO <sub>3</sub> Exact Mass: 271.0645 Molecular Weight: 271.2474		
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:

Prinaberel, also known as ERB-041, is a drug which acts as a highly selective agonist of the ER $\beta$  subtype of the estrogen receptor. It is used in scientific research to elucidate the role of the ER $\beta$  receptor. Studies have indicated that selective ER $\beta$  agonists like prinaberel could be useful in the clinical treatment of a variety of medical conditions including inflammatory bowel disease, rheumatoid arthritis, endometriosis, and sepsis. Accordingly, prinaberel either was or still is under investigation by Wyeth for the treatment of some of these conditions.

## 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	30.71	113.21
Ethanol	27.12	100.0

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.69 mL	18.43 mL	36.87 mL
5 mM	0.74 mL	3.69 mL	7.37 mL
10 mM	0.37 mL	1.84 mL	3.69 mL
50 mM	0.07 mL	0.37 mL	0.74 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. Topi G, Satapathy SR, Dash P, Fred Mehrabi S, Ehrnström R, Olsson R, Lydrup ML, Sjölander A. Tumour-suppressive effect of oestrogen receptor  $\beta$  in colorectal cancer patients, colon cancer cells, and a zebrafish model. *J Pathol.* 2020 Jul;251(3):297-309. doi: 10.1002/path.5453. Epub 2020 May 15. PMID: 32333795.
2. Cvoro A, Tatomer D, Tee MK, Zogovic T, Harris HA, Leitman DC. Selective estrogen receptor-beta agonists repress transcription of proinflammatory genes. *J Immunol.* 2008 Jan 1;180(1):630-6. doi: 10.4049/jimmunol.180.1.630. PMID: 18097065.

### In vivo study

1. Chaudhary SC, Singh T, Talwelkar SS, Srivastava RK, Arumugam A, Weng Z, Elmets CA, Afaq F, Kopelovich L, Athar M. Erb-041, an estrogen receptor- $\beta$  agonist, inhibits skin photocarcinogenesis in SKH-1 hairless mice by downregulating the WNT signaling pathway. *Cancer Prev Res (Phila).* 2014 Feb;7(2):186-98. doi: 10.1158/1940-6207.CAPR-13-0276. Epub 2013 Nov 11. PMID: 24217507; PMCID: PMC3946228.
2. Harris HA, Albert LM, Leathurby Y, Malamas MS, Mewshaw RE, Miller CP, Kharode YP, Marzolf J, Komm BS, Winneker RC, Frail DE, Henderson RA, Zhu Y, Keith JC Jr. Evaluation of an estrogen receptor-beta agonist in animal models of human disease.

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Endocrinology. 2003 Oct;144(10):4241-9. doi: 10.1210/en.2003-0550. Erratum in: Endocrinology. 2006 May;147(5):2085. PMID: 14500559.

## 7. Bioactivity

### Biological target:

Prinaberel (ERB-041) is a potent and selective estrogen receptor (ER)  $\beta$  agonist with IC<sub>50</sub>s of 5.4, 3.1 and 3.7 nM for human, rat and mouse Er $\beta$ .

### In vitro activity

The purpose of this study was to use microarray analysis to determine whether ERbeta-selective compounds produce their anti-inflammatory effects by repressing transcription of proinflammatory genes. This study identified 49 genes that were activated by TNF-alpha in human osteosarcoma U2OS cells expressing ERbeta. Estradiol treatment significantly reduced the activation by TNF-alpha on 18 genes via ERbeta or ERalpha. Most repressed genes were inflammatory genes, such as TNF-alpha, IL-6, and CSF2.

Reference: J Immunol. 2008 Jan 1;180(1):630-6. <https://pubmed.ncbi.nlm.nih.gov/18097065/>

### In vivo activity

This study investigated the cancer chemopreventive properties of Erb-041, an ER- $\beta$  agonist, using a model of UVB-induced photocarcinogenesis in SKH-1 mice. Erb-041 significantly reduced UVB-induced carcinogenesis. Tumor numbers and volume were reduced by 60% and 84%, respectively, in the Erb-041-treated group as compared with UVB (alone) control. Tumors excised from Erb-041-treated animal were less invasive and showed reduced epithelial-mesenchymal transition (EMT).

Reference: Cancer Prev Res (Phila). 2014 Feb;7(2):186-98. <https://pubmed.ncbi.nlm.nih.gov/24217507/>

*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.*