

# Product data sheet



MedKoo Cat#: 563159 Name: o-3M3FBS CAS: 313981-55-4 Chemical Formula: C <sub>16</sub> H <sub>16</sub> F <sub>3</sub> NO <sub>2</sub> S Exact Mass: 343.0854 Molecular Weight: 343.3642	
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:

o-3M3FBS is a negative control for m-3M3FBS, an activator of phospholipase C (PLC).

## 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
DMF	30.0	87.37
DMSO	51.45	149.83
Ethanol	34.34	100.0
Ethanol:PBS (pH 7.2) (1:3)	0.25	0.73

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.91 mL	14.56 mL	29.12 mL
5 mM	0.58 mL	2.91 mL	5.82 mL
10 mM	0.29 mL	1.46 mL	2.91 mL
50 mM	0.06 mL	0.29 mL	0.58 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. Chen WC, Chou CT, Liou WC, Liu SI, Lin KL, Lu T, Lu YC, Hsu SS, Tsai JY, Liao WC, Liang WZ, Jan CR. Rise of [Ca<sup>2+</sup>]<sub>i</sub> and apoptosis induced by M-3M3FBS in SCM1 human gastric cancer cells. *Chin J Physiol.* 2014 Feb 28;57(1):31-40. doi: 10.4077/CJP.2014.BAB141. PMID: 24621336.

2. Bae YS, Lee TG, Park JC, Hur JH, Kim Y, Heo K, Kwak JY, Suh PG, Ryu SH. Identification of a compound that directly stimulates phospholipase C activity. *Mol Pharmacol.* 2003 May;63(5):1043-50. doi: 10.1124/mol.63.5.1043. PMID: 12695532.

### In vivo study

1. Kim SD, Kim HJ, Shim JW, Lee HY, Lee SK, Kwon S, Jung YS, Baek SH, Park JS, Zabel BA, Bae YS. Phospholipase C activator m-3M3FBS protects against morbidity and mortality associated with sepsis. *J Immunol.* 2012 Aug 15;189(4):2000-5. doi: 10.4049/jimmunol.1200635. Epub 2012 Jul 13. PMID: 22798676.

2. Dwyer L, Kim HJ, Koh BH, Koh SD. Phospholipase C-independent effects of 3M3FBS in murine colon. *Eur J Pharmacol.* 2010 Feb 25;628(1-3):187-94. doi: 10.1016/j.ejphar.2009.11.029. Epub 2009 Nov 18. PMID: 19931239; PMCID: PMC3152466.

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## 7. Bioactivity

### Biological target:

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o-3M3FBS is the negative control of m-3M3FBS. o-3M3FBS inhibits inward and outward currents via mechanisms independent of PLC acting in an antagonistic manner.

### In vitro activity

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The active compound 2,4,6-trimethyl-N-(meta-3-trifluoromethyl-phenyl)-benzenesulfonamide (m-3M3FBS) stimulated a transient intracellular calcium concentration ( $[Ca^{2+}]_i$ ) increase in neutrophils. Moreover, m-3M3FBS stimulated the formation of inositol phosphates in U937 cells, indicating that it stimulates PLC activity. This study also observed that m-3M3FBS stimulated PLC activity in vitro.

Reference: Mol Pharmacol. 2003 May;63(5):1043-50. <https://pubmed.ncbi.nlm.nih.gov/12695532/>

### In vivo activity

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This study examined the effects of m-3M3FBS and 2, 4, 6-trimethyl-N-(ortho-3-trifluoromethyl-phenyl)-benzenesulfonamide (o-3M3FBS), on murine colonic smooth muscle tissue and cells by performing conventional microelectrode recordings, isometric force measurements and patch clamp experiments. Application of m-3M3FBS decreased spontaneous contractility in murine colonic smooth muscle without affecting the resting membrane potential. Patch clamp studies revealed that delayed rectifier  $K^+$  channels were reversibly inhibited by m-3M3FBS and o-3M3FBS.

Reference: Eur J Pharmacol. 2010 Feb 25;628(1-3):187-94. <https://pubmed.ncbi.nlm.nih.gov/19931239/>

*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.*