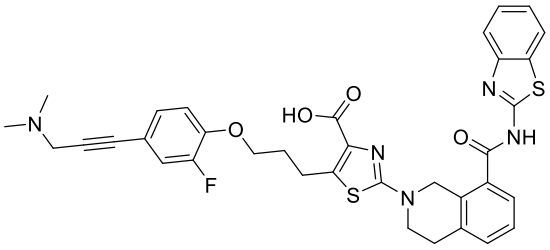
Product data sheet

MedKoo Cat#: 407213 Name: A-1155463 CAS#: 1235034-55-5 Chemical Formula: $C_{35}H_{32}FN_5O_4S_2$ Exact Mass: 669.1880 Molecular Weight: 669.79	
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:

A-1155463 is a highly potent and selective BCL-XL inhibitor. A-1155463 is substantially more potent against BCL-XL-dependent cell lines relative to WEHI-539, while possessing none of its inherent pharmaceutical liabilities. A-1155463 caused a mechanism-based and reversible thrombocytopenia in mice and inhibited H146 small cell lung cancer xenograft tumor growth in vivo following multiple doses. A-1155463 thus represents an excellent tool molecule for studying BCL-XL biology as well as a productive lead structure for further optimization.

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	50	74.65

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.49 mL	7.47 mL	14.93 mL
5 mM	0.30 mL	1.49 mL	2.99 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. Zhang H, Xue J, Hessler P, Tahir SK, Chen J, Jin S, Souers AJ, Leverson JD, Lam LT. Genomic analysis and selective small molecule inhibition identifies BCL-X(L) as a critical survival factor in a subset of colorectal cancer. Mol Cancer. 2015 Jul 2;14:126. doi: 10.1186/s12943-015-0397-y. PMID: 26134786; PMCID: PMC4487849.
2. Phillips DC, Xiao Y, Lam LT, Litvinovich E, Roberts-Rapp L, Souers AJ, Leverson JD. Loss in MCL-1 function sensitizes non-Hodgkin's lymphoma cell lines to the BCL-2-selective inhibitor venetoclax (ABT-199). Blood Cancer J. 2015 Nov 13;5(11):e368. doi: 10.1038/bcj.2015.88. Erratum in: Blood Cancer J. 2016;6:e403. PMID: 26565405; PMCID: PMC4670945.

In vivo study

1. Sun WC, Pei L. Dexmedetomidine attenuates propofol-induced apoptosis of neonatal hippocampal astrocytes by inhibiting the Bcl2l1 signalling pathway. Eur J Neurosci. 2021 Dec;54(11):7775-7789. doi: 10.1111/ejn.15517. Epub 2021 Nov 23. PMID: 34734676.
2. Tao ZF, Hasvold L, Wang L, Wang X, Petros AM, Park CH, Boghaert ER, Catron ND, Chen J, Colman PM, Czabotar PE, Deshayes K, Fairbrother WJ, Flygare JA, Hymowitz SG, Jin S, Judge RA, Koehler MF, Kovar PJ, Lessene G, Mitten MJ, Ndubaku CO, Nimmer P, Purkey HE, Oleksijew A, Phillips DC, Sleebs BE, Smith BJ, Smith ML, Tahir SK, Watson KG, Xiao Y,

Product data sheet

Xue J, Zhang H, Zobel K, Rosenberg SH, Tse C, Leverson JD, Elmore SW, Souers AJ. Discovery of a Potent and Selective BCL-XL Inhibitor with in Vivo Activity. ACS Med Chem Lett. 2014 Aug 26;5(10):1088-93. doi: 10.1021/ml5001867. PMID: 25313317; PMCID: PMC4190639.

7. Bioactivity

Biological target:

A-1155463 is an inhibitor of Bcl-xL (Ki = <0.01 nM).1 It is selective for Bcl-xL over Bcl-2 and Bcl-W (Kis = 80 and 16 nM, respectively). A-1155463 inhibits the growth of H146 small cell lung cancer cells (EC50 = 65 nM). In vivo, A-1155463 (5 mg/kg, i.p.) reduces tumor volume in an H146 mouse xenograft model. A-1155463 also induces premature apoptosis in influenza A-infected cells (EC50 = <10 nM). A-1155463 has an EC50 of 70 nM in Molt-4 cell.

In vitro activity

This article demonstrates the utility of A-1155463 in investigating the role of BCL-X(L) in mediating the survival of specific tumor types. Colorectal cancer cell lines with BCL2L1 copy number >3 were more sensitive to A-1155463. Cell lines with high expression of BCL-XL and NOXA were sensitive to A-1155463.

Reference: Mol Cancer. 2015 Jul 2;14:126. https://pubmed.ncbi.nlm.nih.gov/26134786/

In vivo activity

A-1155463 is an excellent tool molecule for studying BCL-XL biology and is a productive lead structure for further optimization. A-1155463 caused a mechanism-based and reversible thrombocytopenia in mice and inhibited H146 small cell lung cancer xenograft tumor growth in vivo following multiple doses.

Reference: ACS Med Chem Lett. 2014 Aug 26;5(10):1088-93. https://pubmed.ncbi.nlm.nih.gov/25313317/

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.