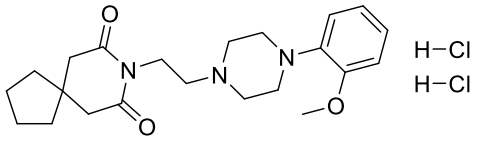
Product data sheet

MedKoo Cat#: 522666 Name: BMY-7378 HCl CAS#: 21102-95-4 (HCl) Chemical Formula: $C_{22}H_{33}Cl_2N_3O_3$ Molecular Weight: 458.424	
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:
BMY 7378 is an agonist at 5-HT1A receptors mediating hypotension and renal sympatho-inhibition in anaesthetised cats. BMY 7378 is also an alpha (2C)-adrenoceptor antagonist. BMY 7378 is a hypotensive agent in the rat, but that its actions are mediated, in part, by central 5-HT(1A) receptor stimulation in the adult and by a nonserotonergic mechanism in the young rat.

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	25.0	54.53
DMF	10.0	21.81
Ethanol	0.2	0.44
PBS (pH 7.2)	0.5	1.09

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.18 mL	10.91 mL	21.81 mL
5 mM	0.44 mL	2.18 mL	4.36 mL
10 mM	0.22 mL	1.09 mL	2.18 mL
50 mM	0.04 mL	0.22 mL	0.44 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. Cleary L, Murad K, Bexis S, Docherty JR. The alpha (1D)-adrenoceptor antagonist BMY 7378 is also an alpha (2C)-adrenoceptor antagonist. Auton Autacoid Pharmacol. 2005 Oct;25(4):135-41. doi: 10.1111/j.1474-8673.2005.00342.x. PMID: 16176444.

In vivo study

1. Rodríguez JE, Saucedo-Campos AD, Vega AV, Ramírez-Hernández D, Martínez-Aguilar L, Jiménez-Flores JR, Andrade-Jorge E, Estrada-Soto SE, Villalobos-Molina R, Touyz RM, Gallardo-Ortíz IA. The α1D-adrenoreceptor antagonist BMY 7378 reverses cardiac hypertrophy in spontaneously hypertensive rats. J Hypertens. 2020 Aug;38(8):1496-1503. doi: 10.1097/HJH.0000000000002412. PMID: 32195823.
2. Villalobos-Molina R, Gil-Flores M, Gallardo-Ortiz IA, López-Guerrero JJ, Ibarra M. The hypotensive effect of BMY 7378 involves central 5-HT1A receptor stimulation in the adult but not in the young rat. Arch Med Res. 2004 Nov-Dec;35(6):495-8. doi: 10.1016/j.arcmed.2004.11.009. PMID: 15631873.

7. Bioactivity
Biological target:

Product data sheet

An α_{2C}- and α_{1D}-adrenoceptor antagonist and 5-HT_{1A} partial agonist.

In vitro activity

In ligand-binding studies, BMY 7378 showed 10-fold selectivity for alpha(2C)-adrenoceptors (pK(i) of 6.54) over other alpha(2)-adrenoceptors. It is concluded that BMY 7378, in addition to alpha(1D)-adrenoceptor selectivity in terms of alpha(1)-adrenoceptors, shows selectivity for alpha(2C)-adrenoceptors in terms of alpha(2)-adrenoceptors.

Reference: Auton Autacoid Pharmacol. 2005 Oct;25(4):135-41. https://pubmed.ncbi.nlm.nih.gov/16176444/

In vivo activity

By 30 weeks of age, SHR (spontaneously hypertensive rats) exhibited significant hypertension and cardiac hypertrophy. BMY 7378 and captopril decreased blood pressure and improved hemodynamic parameters and cardiac function in treated SHR vs. untreated SHR ($P < 0.05$). Histology showed increased cardiomyocyte size, fibrosis, and left ventricular hypertrophy in SHR hearts. BMY 7378 ameliorated fibrosis and cardiac hypertrophy, but had no effect on cardiomyocyte size in SHR. Effects of BMY 7378 were associated with increased α1D-AR protein expression in SHR.

Reference: J Hypertens. 2020 Aug;38(8):1496-1503. https://pubmed.ncbi.nlm.nih.gov/32195823/

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.