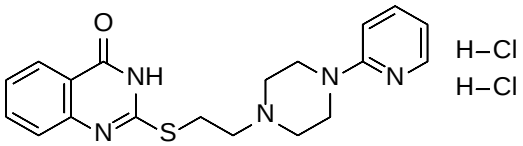
Product data sheet

MedKoo Cat#: 555720 Name: MC2050 HCl CAS: 1301757-19-6 (HCl) Chemical Formula: $C_{19}H_{23}Cl_2N_5OS$ Molecular Weight: 440.387	
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:
MC2050 is a potent PARP-1 inhibitor. The IC_{50} for inhibition of PARP-1 activity is 119 nM, compared to 1.8 µM for PARP-2. MC2050 inhibits apoptosis and blocks poly ADP-ribosylation of histone H1 in hydrogen peroxide treated SH-SY5Y neuroblastoma cells.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.27 mL	11.35 mL	22.71 mL
5 mM	0.45 mL	2.27 mL	4.54 mL
10 mM	0.23 mL	1.14 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

Martire S, Fuso A, Rotili D, Tempera I, Giordano C, De Zottis I, Muzi A, Vernole P, Graziani G, Lococo E, Faraldi M, Maras B, Scarpa S, Mosca L, d'Erme M. PARP-1 modulates amyloid beta peptide-induced neuronal damage. PLoS One. 2013 Sep 24;8(9):e72169. doi: 10.1371/journal.pone.0072169. PMID: 24086258; PMCID: PMC3782458.

In vivo study

Martire S, Fuso A, Rotili D, Tempera I, Giordano C, De Zottis I, Muzi A, Vernole P, Graziani G, Lococo E, Faraldi M, Maras B, Scarpa S, Mosca L, d'Erme M. PARP-1 modulates amyloid beta peptide-induced neuronal damage. PLoS One. 2013 Sep 24;8(9):e72169. doi: 10.1371/journal.pone.0072169. PMID: 24086258; PMCID: PMC3782458.

7. Bioactivity
Biological target:

MC2050 is a potent PARP-1 inhibitor.

In vitro activity

To elucidate the role of PARP-1 in the neurodegenerative process, SH-SY5Y neuroblastoma cells were treated with Aβ25-35 fragment in the presence or absence of MC2050, a new PARP-1 inhibitor. Aβ25-35 induces an enhancement of PARP activity which is

prevented by cell pre-treatment with MC2050. These data were confirmed by measuring PARP-1 activity in CHO cells transfected with amylod precursor protein and in vivo in brains specimens of TgCRND8 transgenic mice overproducing the amyloid peptide.

Reference: PLoS One. 2013 Sep 24;8(9):e72169. https://pubmed.ncbi.nlm.nih.gov/24086258/

In vivo activity

To elucidate the role of PARP-1 in the neurodegenerative process, SH-SY5Y neuroblastoma cells were treated with Aβ25-35 fragment in the presence or absence of MC2050, a new PARP-1 inhibitor. Aβ25-35 induces an enhancement of PARP activity which is prevented by cell pre-treatment with MC2050. These data were confirmed by measuring PARP-1 activity in CHO cells transfected with amylod precursor protein and in vivo in brains specimens of TgCRND8 transgenic mice overproducing the amyloid peptide.

Reference: PLoS One. 2013 Sep 24;8(9):e72169. https://pubmed.ncbi.nlm.nih.gov/24086258/

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.