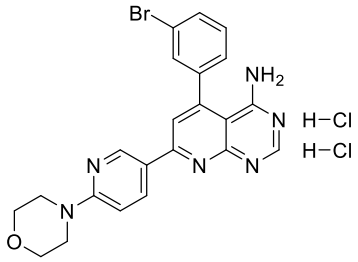
Product data sheet

MedKoo Cat#: 524108 Name: ABT-702 HCl CAS#: 1188890-28-9 (HCl) Chemical Formula: $C_{22}H_{21}BrCl_2N_6O$ Molecular Weight: 536.25	
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:

ABT 702 Dihydrochloride is a potent non-nucleoside adenosine kinase inhibitor, selective over other sites of adenosine interaction like A1, A2A and A3 receptors, adenosine transporter and adenosine deaminase. It displays oral activity in animal models of pain and inflammation.

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	66.67	124.33
Ethanol	3.0	5.59

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.86 mL	9.32 mL	18.65 mL
5 mM	0.37 mL	1.86 mL	3.73 mL
10 mM	0.19 mL	0.93 mL	1.86 mL
50 mM	0.04 mL	0.19 mL	0.37 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. Elsherbiny NM, Ahmad S, Naime M, Elsherbini AM, Fulzele S, Al-Gayyar MM, Eissa LA, El-Shishtawy MM, Liou GI. ABT-702, an adenosine kinase inhibitor, attenuates inflammation in diabetic retinopathy. Life Sci. 2013 Jul 30;93(2-3):78-88. doi: 10.1016/j.lfs.2013.05.024. Epub 2013 Jun 12. PMID: 23770229.

In vivo study

1. Otsuguro K, Tomonari Y, Otsuka S, Yamaguchi S, Kon Y, Ito S. An adenosine kinase inhibitor, ABT-702, inhibits spinal nociceptive transmission by adenosine release via equilibrative nucleoside transporters in rat. Neuropharmacology. 2015 Oct;97:160-70. doi: 10.1016/j.neuropharm.2015.05.035. Epub 2015 Jun 9. PMID: 26066576.
2. Elsherbiny NM, Ahmad S, Naime M, Elsherbini AM, Fulzele S, Al-Gayyar MM, Eissa LA, El-Shishtawy MM, Liou GI. ABT-702, an adenosine kinase inhibitor, attenuates inflammation in diabetic retinopathy. Life Sci. 2013 Jul 30;93(2-3):78-88. doi: 10.1016/j.lfs.2013.05.024. Epub 2013 Jun 12. PMID: 23770229.

7. Bioactivity

Biological target:

ABT-702 dihydrochloride is a potent adenosine kinase (AK) inhibitor (IC50=1.7 nM).

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In vitro activity

To identify the AR subtype(s) involved in ABT 702 inhibitory effect on TNF-α release in the retinal microglia in response to AGA, this study examined the effect of the ABT 702 in the presence of AR subtype-selective antagonists. As shown in Fig. 9, cells pretreated with vehicle showed a significant increase in AGA-induced TNF-α release compared with vehicle-treated control cells. Treatment with ABT 702 at a concentration of 20 μM potently inhibited AGA-induced TNF-α release.

Reference: Life Sci. 2013 Jul 30;93(2-3):78-88. https://pubmed.ncbi.nlm.nih.gov/23770229/

In vivo activity

Bath application of ABT-702 (3 μM) to the isolated neonatal rat spinal cord for 20 min gradually decreased sVRPs with a slight decline in MSRs, which were both rapidly recovered by 8CPT (3 μM), an adenosine A_1 receptor antagonist (Fig. 1A). On the other hand, both sVRP and MSR inhibitions by ABT-702 were not affected by potent and selective adenosine A_{2A}, A_{2B} and A_3 receptor antagonists, ZM241385 (0.1 μM), PSB1115 (0.1 μM) and VUF5574 (0.1 μM), respectively (Fig. 1C and D).

Reference: Neuropharmacology. 2015 Oct;97:160-70. https://pubmed.ncbi.nlm.nih.gov/26066576/