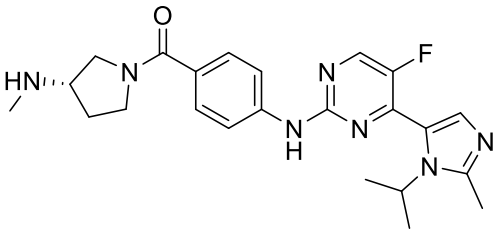
Product data sheet

MedKoo Cat#: 406328 Name: AZD-5597 CAS#: 924641-59-8 Chemical Formula: $C_{23}H_{28}FN_7O$ Exact Mass: 437.23394 Molecular Weight: 437.51312	
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:
AZD-5597 is potent CDK inhibitor with in vitro anti-proliferative effects against a range of cancer cell lines. AZD-5597 has excellent physiochemical properties and large margins against inhibition of CYP isoforms and the hERG ion channel.

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	Unknown	Unknown

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.29 mL	11.43 mL	22.86 mL
5 mM	0.46 mL	2.29 mL	4.57 mL
10 mM	0.23 mL	1.14 mL	2.29 mL
50 mM	0.05 mL	0.23 mL	0.46 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. Jones CD, Andrews DM, Barker AJ, Blades K, Daunt P, East S, Geh C, Graham MA, Johnson KM, Loddick SA, McFarland HM, McGregor A, Moss L, Rudge DA, Simpson PB, Swain ML, Tam KY, Tucker JA, Walker M. The discovery of AZD5597, a potent imidazole pyrimidine amide CDK inhibitor suitable for intravenous dosing. Bioorg Med Chem Lett. 2008 Dec 15;18(24):6369-73. doi: 10.1016/j.bmcl.2008.10.102. Epub 2008 Oct 25. PMID: 18996007.

In vivo study

1. Jones CD, Andrews DM, Barker AJ, Blades K, Daunt P, East S, Geh C, Graham MA, Johnson KM, Loddick SA, McFarland HM, McGregor A, Moss L, Rudge DA, Simpson PB, Swain ML, Tam KY, Tucker JA, Walker M. The discovery of AZD5597, a potent imidazole pyrimidine amide CDK inhibitor suitable for intravenous dosing. Bioorg Med Chem Lett. 2008 Dec 15;18(24):6369-73. doi: 10.1016/j.bmcl.2008.10.102. Epub 2008 Oct 25. PMID: 18996007.

7. Bioactivity
Biological target:

AZD-5597 is a CDK1, CDK2, and LoVo inhibitor with an IC50 of 0.002, 0.002, and 0.039 μM respectively.

In vitro activity

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Much improved levels of potency against CDK1 were observed for (S)-3-methylamine pyrrolidines. Again, varying levels of anti-proliferative activity were seen with 5-fluoro versus 5-H pyrimidine substitution. The best balance of CDK1/2 enzyme and anti-proliferative activity was observed with the more lipophilic 5-fluoropyrimidine (S)-methylamine, (S)-15b (AZD-5597). With high levels of both enzyme potency and cellular anti-proliferative activity, this promising compound was progressed into additional physiochemical assays (Table 5). The overall profile of (S)-15b indicated that it was suitable for further development as an iv agent. The high margins against hERG allow for flexibility in dosing either as a bolus or by extended infusions. The lack of CYP inhibition lowers the risk of problematic drug–drug interactions in the clinic. Excellent aqueous solubility from crystalline (S)-15b was obtained, even in simple saline formulations. In addition, the formulated drug showed no significant decomposition on exposure to light, plasma or through chemical hydrolysis.

Reference: Bioorg Med Chem Lett. 2008 Dec 15;18(24):6369-73.
https://www.sciencedirect.com/science/article/pii/S0960894X08012894?via%3Dihub

In vivo activity

(S)-15b (AZD-5597) possessed good pharmacokinetic parameters with moderate to low clearance in nude mouse and rat (Table 6). Clearance in the dog was higher (58% liver blood flow), due to the higher levels of free drug in dog plasma, but was still acceptable for an intravenously dosed drug. Nude mice were implanted subcutaneously with SW620 human colon adenocarcinoma cells and in vivo tumour xenograft efficacy was established by dosing (S)-15b intraperitoneally (ip). Anti-tumour activity was observed with an inhibition of tumour volume of 55% ($P < 0.001$) when dosed intermittently (Monday, Wednesday, Friday) for 3 weeks at 15 mg/kg. On the basis of data presented, the compound (S)-15b was selected for further development as AZD5597.

Reference: Bioorg Med Chem Lett. 2008 Dec 15;18(24):6369-73.
https://www.sciencedirect.com/science/article/pii/S0960894X08012894?via%3Dihub

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.