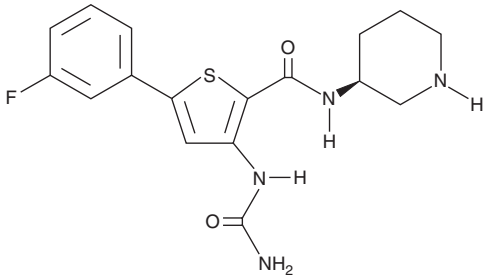
PRODUCT INFORMATION

AZD 7762

Item No. 11491

CAS Registry No.: 860352-01-8
Formal Name: 3-[(aminocarbonyl)amino]-5-(3-fluorophenyl)-N-(3S)-3-piperidinyl-2-thiophenecarboxamide
MF: $C_{17}H_{19}FN_4O_2S$
FW: 362.4
Purity: ≥98%
UV/Vis.: λ_{max}: 251, 303 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

AZD 7762 is supplied as a crystalline solid. A stock solution may be made by dissolving the AZD 7762 in the solvent of choice, which should be purged with an inert gas. AZD 7762 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of AZD 7762 in DMF is approximately 20 mg/ml and approximately 10 mg/ml in ethanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of AZD 7762 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of AZD 7762 in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Actively proliferating cells experience blocks at certain checkpoints in the cell cycle when DNA damage is detected. These checkpoints allow for DNA damage repair before further cell cycle progression. Targeting signaling pathways to selectively inhibit repair at these checkpoints in tumor cells is of considerable interest to cancer therapeutics. AZD 7762 selectively inhibits the activity of checkpoint kinases (Chk) 1 and Chk2 (IC_{50}s = 5 nM) by competitively and reversibly binding their respective ATP-binding sites (K_i = 3.6 nM for Chk1).[1] AZD 7762 abrogates DNA damage-induced S and G_2 checkpoints with an EC_{50} value of 10 nM and potentiates the efficacy of DNA-damage repair prohibitive agents, gemcitabine and topotecan, both *in vitro* and in various tumor xenografts by modulating downstream checkpoint pathway proteins.[1-3]

References

1. Zabludoff, S.D., Deng, C., Grondine, M.R., *et al*. AZD7762, a novel checkpoint kinase inhibitor, drives checkpoint abrogation and potentiates DNA-targeted therapies. *Mol. Cancer Ther.* **7**, 2955-2966 (2008).
2. Mitchell, J.B., Choudhuri, R., Fabre, K., *et al*. *In vitro* and *in vivo* radiation sensitization of human tumor cells by a novel checkpoint kinase inhibitor, AZD7762. *Clin. Cancer Res.* **16(7)**, 2076-2084 (2010).
3. Morgan, M.A., Parsels, L.A., Zhao, L., *et al*. Mechanism of radiosensitization by the Chk1/2 inhibitor AZD7762 involves abrogation of the G_2 checkpoint and inhibition of homologous recombinational DNA repair. *Cancer Res.* **70(12)**, 4972-4981 (2010).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM