AZD8055 is a potent, selective ATP-competitive inhibitor of mammalian target of rapamycin (mTOR), with an IC\textsubscript{50} value of 0.8 nM (Chresta et al.). It is very specific, with ~1,000-fold selectivity for mTOR over all PI3K isoforms and exhibits no activity against a panel of 260 kinases at concentrations up to 10 µM (Chresta et al.).

Molecular Name: AZD8055
Alternative Names: CCG-168
CAS Number: 1009298-09-2
Chemical Formula: C\textsubscript{25}H\textsubscript{31}N\textsubscript{5}O\textsubscript{4}
Molecular Weight: 465.5 g/mol
Purity: ≥ 98%
Chemical Name: 5-\{2,4-bis[(3S)-3-methyl-4-morpholinyl]pyrido[2,3-d]pyrimidin-7-yl\}-2-methoxy-benzenemethanol

Structure:

![Chemical Structure of AZD8055]

Properties
Physical Appearance: A crystalline solid
Storage: Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.
Solubility:
\begin{itemize}
  \item DMSO ≤ 2 mM
  \item Absolute ethanol ≤ 1 mM
\end{itemize}
For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 2.15 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

CANCER
- Inhibits proliferation of A549 and H838 small-cell lung cancer cell lines in vitro, and inhibits tumor growth from a variety of human tumor xenografts in mice after oral administration (Chresta et al.).
- Inhibits cell proliferation, increases cell death and reduces migration in tamoxifen-resistant (TamR) and estrogen deprivation-resistant (MCF7-X) breast cancer cell lines (Jordan et al.).
- Induces apoptosis and inhibits proliferation in Hep-2, a human laryngeal cancer cell line (Zhao et al.).
- In combination with ABT-737, synergistically induces apoptosis in rhabdomyosarcoma (RMS) cells by suppressing expression of myeloid leukemia cell differentiation protein (MCL1; Preuss et al.).
- Inhibits proliferation and glycolysis, and induces apoptosis, in HeLa human cervical cancer cell line (Li et al.).

References

Related Small Molecules
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