

Small Molecules

KP372-1

PI3K/AKT pathway inhibitor; Inhibits AKT

Catalog # 73222

10 mg



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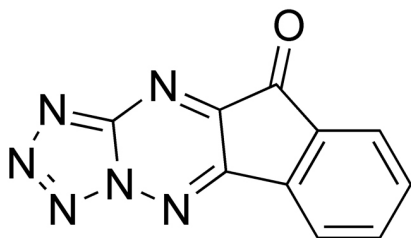
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Product Description

KP372-1 is a specific inhibitor of AKT, inhibiting phosphorylation of AKT and its downstream targets. It demonstrates at least 10-fold selectivity for AKT versus other kinase targets, including CDK1, ERK1, GSK3 β , LCK, MEK1, PKA, PKC, and S6K (Mandal et al. 2005; Zeng et al.; Koul et al.).

Molecular Name:	KP372-1
Alternative Names:	Not applicable
CAS Number:	329710-24-9
Chemical Formula:	C ₁₀ H ₄ N ₆ O
Molecular Weight:	224.2 g/mol
Purity:	≥ 95%
Chemical Name:	10H-indeno[2,1-e]tetrazolo[1,5-b][1,2,4]triazin-10-one
Structure:	



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:	· DMSO ≤ 130 mM For example, to prepare a 100 mM stock solution in DMSO, resuspend 10 mg in 446 μ L 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 and induces apoptosis in a variety of human cancer cells including squamous cell carcinoma of the head and neck, thyroid cancer cells, and glioblastoma (Mandal et al. 2005; Mandal et al. 2006; Koul et al.).
- Inhibits the kinase activity of AKT, PDK1, and FLT3, and decreases the colony-forming ability of acute myelogenous leukemia cells (Zeng et al.).

References

- Koul D et al. (2006) Inhibition of Akt survival pathway by a small-molecule inhibitor in human glioblastoma. *Mol Cancer Ther* 5(3): 637–44.
- Mandal M et al. (2006) The Akt inhibitor KP372-1 inhibits proliferation and induces apoptosis and anoikis in squamous cell carcinoma of the head and neck. *Oral Oncol* 42(4): 430–9.
- Mandal M et al. (2005) The Akt inhibitor KP372-1 suppresses Akt activity and cell proliferation and induces apoptosis in thyroid cancer cells. *Br J Cancer* 92(10): 1899–1905.
- Zeng Z et al. (2006) Simultaneous inhibition of PDK1/AKT and Fms-like tyrosine kinase 3 signaling by a small-molecule KP372-1 induces mitochondrial dysfunction and apoptosis in acute myelogenous leukemia. *Cancer Res* 66(7): 3737–46.

Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

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