Staurosporine

PRODUCT ANALYSIS SHEET

Catalog Number: PHZ1271

Lot Number: See product label

Quantity: 100 µg

Appearance: Lyophilized solid

Molecular Formula: $C_{28}H_{26}N_4O_3$

Molecular Weight: 466.5

Purity: 99%, as assessed by TLC

Summary: Staurosporine inhibits a variety of kinases including PKA, PKG, MLCK, CaMK, tyrosine kinases, and phosphorylase kinase. This compound displays selectivity toward the PKC isoforms, inhibiting PKCα, PKCβ, PKCγ, PKCδ, and PKCε, but not PKCΣ, and induces PKC translocation. Staurosporine also inhibits topoisomerase II directly by interaction with the ATP binding site, augments PMA-induced ornithine decarboxylase, and activates a bcl-2-regulated apoptosis pathway.

Biological Activity:

CaMK: IC_{50} = 20 nM	PKC: K_i = 0.7 nM
MLCK: K_i = 1.3 nM	PKCα: IC_{50} = 58 nM
phosphorylase kinase IC_{50} = 0.5 nM	PKCβ: IC_{50} = 65 nM
PKA: K_i = 7.0 nM	PKCγ: IC_{50} = 49 nM
PKG: K_i = 8.5 nM	PKCδ: IC_{50} = 325 nM
tyrosine kinases: IC_{50} = 70 nM	PKCε: IC_{50} = 160 nM

Solubility: Soluble in DMSO at a concentration of 25 mg/mL and DMF at a concentration of 25 mg/mL.

Storage: Store, as supplied, at 2-8°C. Upon solubilization, apportion into working aliquots and store at –20°C. Avoid repeated freeze/thaw cycles. Solutions are stable at –20°C for up to three months.

Expiration Date: Expires one year from date of receipt when stored as instructed.

Related Products:

ERK1&2 [$pTpY^{185/187}$] antibody, Cat. # 44-680G	Tau [pS^{214}] antibody, Cat. # 44-742G
Akt/PKB [pS^{473}] antibody, Cat. # 44-622G	Tau [pS^{262}] antibody, Cat. # 44-750G
PKCδ [pY^{311}] (mouse) antibody, Cat. # 44-950	Tau [pS^{356}] antibody, Cat. # 44-751G
Tau [pT^{212}] antibody, Cat. # 44-740G	Tau [pS^{409}] antibody, Cat. # 44-760G

Caution: Avoid contact with eyes, skin, and mucous membranes. Wear protective clothing when handling this product. Not for human use.

References:

Seynaeve, C.M., et al. (1994) Differential inhibition of protein kinase C isozymes by UCN-01, a staurosporine analogue. Mol. Pharmacol. 45(6):1207-1214.

Wang, X., et al. (1996) Cleavage of sterol regulatory element binding proteins (SREBPs) by CPP32 during apoptosis. EMBO J. 15(5):1012-1020.

Spyridopoulos, I., et al. (2002) Divergence of angiogenic and vascular permeability signaling by VEGF: inhibition of protein kinase C suppresses VEGF-induced angiogenesis, but promotes VEGF-induced, NO-dependent vascular permeability. Arterioscler. Thromb. Vasc. Biol. 22(6):901-906.

Wan, X., et al. (2002) PTEN augments staurosporine-induced apoptosis in PTEN-null Ishikawa cells by downregulating PI3K/Akt signaling pathway. Cell Death Differ. 9(4):414-420.

Swannie, H.C. and S.B. Kaye (2002) Protein kinase C inhibitors. Curr. Oncol. Rep. 4(1):37-46.

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