

# Staurosporine

250 µg

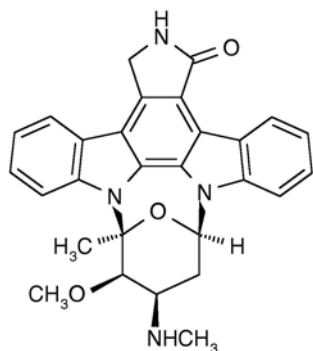
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For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** Staurosporine is an alkaloid isolated from the culture broth of *Streptomyces staurospores*. It is a potent, cell permeable protein kinase C inhibitor with an IC50 of 0.7 nM. At higher concentration (1-20 nM), staurosporine also inhibits other kinases such as PKA, PKG, CAMKII and Myosin light chain kinase (MLCK) (1). At 50-100 nM, it is a functional neurotrophin agonist, promoting neurite outgrowth in neuroblastoma, pheochromocytoma and brain primary neuronal cultures. At 0.2- 1 µM, staurosporine induces cell apoptosis (2,3).

**Molecular Formula:** C<sub>26</sub>H<sub>26</sub>N<sub>4</sub>O<sub>3</sub>



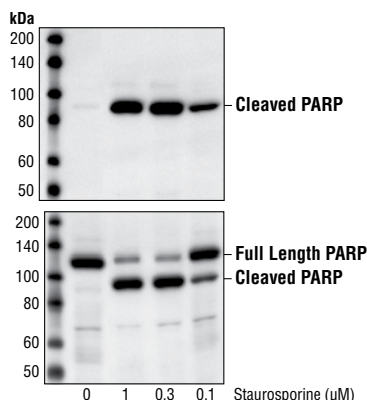
**Molecular Weight:** 466 g/mol

**Purity:** Greater than 99% as evaluated by HPLC.

**Source/Purification:** Culture broth of *Streptomyces staurospores*.

**Directions for Use:** Dissolve the lyophilized alkaloid in DMSO or Methanol. For a 1 mM solution, dissolve in 0.536 mL.

Enzyme	IC <sub>50</sub> (nM)
CaMK-11	20
Myosine Light Chain Kinase	1.3
PKA	7
PKC	0.7
PKG	8.5
Apoptosis	0.2-1 µM



Western blot analysis of extracts from HeLa cells, untreated or Staurosporine-treated (3 hours), showing PARP cleavage as evidence of induction of apoptosis, using Cleaved PARP Antibody #9541 (upper) or PARP Antibody #9542 (lower).

**Background References:**

- (1) Ruegg, U.T. and Burgess, G.M. (1989) *Trends Pharmacol. Sci.* 10, 218-220.
- (2) Couldwell, W.T. et al. (1994) *FEBS Lett.* 345, 43-46.
- (3) Yue, T.L. et al. (1998) *J. Mol. Cell. Cardiol.* 30, 495-507.

**Storage:** Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.