Overview

Product name  Staurosporine, Protein kinase inhibitor
Description  Protein kinase inhibitor
Biological description  Potent, cell-permeable, broad spectrum inhibitor of protein kinases. Kinases inhibited include: protein kinase C (IC$_{50}$ = 3 nM), cAMP-dependent protein kinase (IC$_{50}$ = 8 nM) and p60v-src (IC$_{50}$ = 6 nM).
CAS Number  62996-74-1
Chemical structure

Properties

Chemical name  [9S-(9α,10β,11β,13α)]-2,3,10,11,12,13-Hexahydro-10-methoxy-9-methyl-11-(methylamino)-9,13-epoxy-1H,9H-diindolo[1,2,3-gh:3,2,1-Im]pyrrolo[3,4-ij][1,7]benzodiazinonin-1-one
Molecular weight  466.54
Molecular formula  C$_{28}$H$_{26}$N$_{4}$O$_{3}$
PubChem identifier  44259
Storage instructions  Store at +4°C. Store under desiccating conditions. The product can be stored for up to 12 months.
Solubility overview  Soluble in DMSO to 50 mM
Handling  This product is supplied in one (or more) pack size which is freeze dried. Therefore the contents may not be readily visible, as they can coat the bottom or walls of the vial. Please see our FAQs and information page for more details on handling.
Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and
prior to opening the vial we recommend that you allow your product to equilibrate to room temperature for at least 1 hour.

Refer to SDS for further information

Need more advice on solubility, usage and handling? Please visit our frequently asked questions (FAQ) page for more details.

**SMILES**

O=C6NCc5c2c4n(c1ccc12)[C@@](C)O[C@@H]C[C@@H](NC)[C@H]3OC)n7c4c(c56)c8ccccc78

**Source**

Synthetic

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**2D chemical structure image of ab120056, Staurosporine, Protein kinase inhibitor**

**Chemical Structure - Staurosporine, Protein kinase inhibitor (ab120056)**

**HeLa and Jurkat cells were treated with 1 µM Staurosporine (STS) (ab120056) for 4 hours in complete cell culture media to induce apoptosis and cleaved PARP protein. Untreated and STS treated HeLa and Jurkat lysates were prepared in 1X Cell Extraction Buffer PTR and tested the Cleaved PARP SimpleStepTM ELISA. Raw OD 450 nm values are shown for 500 µg/mL lysate loads.**

**Functional Studies - Staurosporine, Protein kinase inhibitor (ab120056)**

**OD 450nm**

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<thead>
<tr>
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<th>Vehicle</th>
<th>STS</th>
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<tr>
<td>HeLa</td>
<td><img src="image" alt="HeLa OD 450nm" /></td>
<td><img src="image" alt="STS OD 450nm" /></td>
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<tr>
<td>Jurkat</td>
<td><img src="image" alt="HeLa OD 450nm" /></td>
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Lane 1: HeLa, vehicle (DMSO) treated for 4 hours
Lane 2: HeLa 1 µM staurosporine (ab120056), 4 hours
Load 20 µg/lane 5% milk/PBST for block and antibody diluent
Primary antibodies (2 hours, room temp) All lanes: ab136812 250X Primary Antibodies Cocktail, 1/250 dilution
Secondary antibodies (1 hour, room temp) All lanes: ab136812 100X HRP-Conjugated Secondary Antibodies Cocktail, 1/100 dilution

Example of HeLa staurosporine (ab120056) treated cell lysate titration. Background-subtracted data values (mean +/- SD) are graphed.
Example of IC\textsubscript{50} determination. HeLa cells were treated with a dose titration of Staurosporine for 4 hours in complete media. Cells were cultured and treated in a 96-well cell culture microtiter plate. Lysates were prepared by direct in-well lysis without media removal: 2X Cell Extraction Buffer PTR was added to an equal volume of media and then resulting lysate was used directly in the Cleaved PARP SimpleStepTM ELISA assay. Raw values for triplicate measurements are plotted. The calculated IC\textsubscript{50} is 0.77 µM.

Demonstration of Cleaved PARP capture antibody specificity by western blot assay. 20 µg of HeLa extracts that were untreated or treated for 4 hours with 1 µM Staurosporine were analyzed by western blot. The GAPDH blot is included to show the relative loads of each lysate. In the HeLa cell line, Staurosporine treatment is required to detect cleaved PARP protein, as observed in the SimpleStep ELISA.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES, NOT FOR USE IN HUMANS"

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