## Specification

### Staurosporine *BioChemica*

<table>
<thead>
<tr>
<th><strong>Synonym</strong></th>
<th>Antibiotic AM-2282</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>state of matter</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>origin</strong></td>
<td>from <em>Streptomyces staurosporeus</em></td>
</tr>
<tr>
<td><strong>Formula</strong></td>
<td>C&lt;sub&gt;28&lt;/sub&gt;H&lt;sub&gt;26&lt;/sub&gt;N&lt;sub&gt;4&lt;/sub&gt;O&lt;sub&gt;3&lt;/sub&gt;</td>
</tr>
<tr>
<td><strong>M</strong></td>
<td>466.53 g/mol</td>
</tr>
<tr>
<td><strong>CAS-No.:</strong></td>
<td>62996-74-1</td>
</tr>
<tr>
<td><strong>HS-No.:</strong></td>
<td>29419000</td>
</tr>
<tr>
<td><strong>Storage:</strong></td>
<td>2-8°C</td>
</tr>
<tr>
<td></td>
<td>protected from light</td>
</tr>
<tr>
<td><strong>LGK:</strong></td>
<td>6.1 D</td>
</tr>
</tbody>
</table>

### Hazard pictogram(s)

![Hazard pictogram](image)

### Hazard statement(s)

H350

### Precautionary statement(s)

P201-P308+P313

### Signal word

Danger

### WGK:

3

### Specification

- **Assay (HPLC):** min. 97 %
- **λ<sub>max</sub> (MeOH):** 208, 241, 292, 334, 355, 373 nm
- **Solubility (5 mg/ml EtOAc):** clear, colorless
Staurosporine BioChemica

Literature


Comment

Originally, Staurosporine was isolated from Streptomyces staurosporeus. It has antifungal but not antibacterial properties. In the meantime, a variety of structurally related alkaloids (indolcarbazoles) could be isolated, binding to the ATP-binding site in enzymes. Staurosporine is cell-permeable and inhibits several kinases at very low concentrations (PKC \( K_i \) 0.7 nM; PKA \( K_i \) 7 nM; MLCK \( K_i \) 1.3 nM; according to ref. 1). The large number of targets explains the different, in some cases cell-type specific, physiological effects: e.g. Induction of apoptosis, Ca^{2+} release, Phospholipase D activation or activation of genes. In addition, Topoisomerase II is inhibited by blocking of the transfer of the phosphodiester binding of ATP to the tyrosine in the active center.

Solubility and stability: Staurosporine is soluble in DMSO, methanol or ethanol, but not in water. Stock solutions may be prepared with a concentration of 1 mM and are stored at -20°C, protected from light. Solutions are stable for at least 6 months. The working concentration may vary between 10 to 200 nM.