# Product Data Sheet

## Chemical Properties

<table>
<thead>
<tr>
<th>Product Name</th>
<th>CDP 840 hydrochloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cas No.</td>
<td>162542-90-7</td>
</tr>
<tr>
<td>M.Wt:</td>
<td>409.95</td>
</tr>
<tr>
<td>Formula:</td>
<td>C25H27NO2.HCl</td>
</tr>
</tbody>
</table>

**Chemical Name:** (R)-4-(2-(3-(cyclopentyloxy)-4-methoxyphenyl)-2-phenylethyl)pyridine hydrochloride

**Canonical SMILES:** COC1=C(OC2CCCC2)C=C([C@](C3=CC=CC=C3)[(H)]CC4=CC=NC=C4)C=C1.Cl

**Solubility:** Soluble in DMSO > 10 mM

**Storage:** Desiccate at RT

**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:**
- Evaluation sample solution: ship with blue ice
- All other available size: ship with RT, or blue ice upon request

## Biological Activity

**Targets:** Metabolism

**Pathways:** PDE

**Description:**

CDP 840 is a selective phosphodiesterase type IV (PDE4) inhibitor [1] [2] [3] with an IC50 value of 0.007 µM [4].

PDE4 is most abundantly distributed in inflammatory cells such as monocytes and macrophages [3]. PDE4 is a high-affinity cAMP-selective isozyme. It was found that PDE4 was in almost all cell
types in asthma pathogenesis [2].

CD P840 showed a potent inhibition against PDE4 with IC50 values ranging from 2-30 nM to different isoenzymes of PDE4. There are four expressed PDE4 isoenzymes in baculovirus cells, i.e. PDE4A, PDE4B, PDE4C and PDE4D. Except for PDE4C2, CDP 840 did not exhibit isoform selectivity of PDE4. CD P840 exhibited a hill number of about 1.0 against all four PDE4 isoenzymes. For all four PDE4 isoenzymes, CDP 840 acted as a simple competitive inhibitor [5].

In vivo, CDP 840 (30 mg/kg) increased cAMP by 145% in the hippocampus and by 112% in the prefrontal cortex of male Sprague-Dawley rats. CDP 840 at doses of 10 and 30 mg/kg increased the phosphorylation of cAMP response element binding protein (pCREB) in the hippocampus (by 36 and 55%, respectively) and in the prefrontal cortex (by 32 and 60%, respectively). But these doses did not affect the expression of the cAMP response element binding protein (CREB). Repeated treatment with CDP 840 at a dose of 30 mg/kg increased the cell proliferation in rat hippocampus, but these cells were not survival [6].

Reference:


Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.