Product Name : Pyridoxal phosphate
Catalog Number : T3578
CAS Number : 54-47-7
Molecular Formula : C8H10NO6P
Molecular Weight : 247.14

Description: Pyridoxal Phosphate is the active form of vitamin B6 and a coenzyme for many pyridoxal phosphate (PLP)-dependent enzymes. PLP is involved in numerous enzymatic transamination, decarboxylation and deamination reactions; it is necessary for the synthesis of amino acids and amino acid metabolites, and for the synthesis and/or catabolism of certain neurotransmitters, including the conversion of glutamate into gamma-aminobutyric acid (GABA) and levodopa into dopamine. PLP can be used as a dietary supplement in cases of vitamin B6 deficiency. Reduced levels of PLP in the brain can cause neurological dysfunction.

Storage: 2 years -80°C in solvent; 3 years -20°C powder;

Solubility

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>40.5 mM</td>
</tr>
<tr>
<td>Water</td>
<td>24.3 mM</td>
</tr>
</tbody>
</table>

( < 1 mg/ml refers to the product slightly soluble or insoluble )

Receptor (IC50)

Metabolism

In vitro Activity
Pyridoxal phosphate results in an immediate reduction in the rate of DNA synthesis. Pyridoxal 5′-phosphate severely inhibits the DNA Polymerase and RNase H. Conjugation to pyridoxal phosphate fully inhibits NEIL2. Pyridoxal phosphate-conjugated NEIL2 shows much lower activity than the intact enzyme over a wide range of enzyme/substrate ratios. After Pyridoxal phosphate conjugation, the ability of NEIL2 to bind the THF-ligand is completely lost.

In vivo Activity
Pyridoxal 5′-phosphate severely inhibits the DNA Polymerase and RNase H. Pyridoxal phosphate results in an immediate reduction in the rate of DNA synthesis[1]. Conjugation to pyridoxal phosphate fully inhibits NEIL2. Pyridoxal phosphate-conjugated NEIL2 shows much lower activity than the intact enzyme over a wide range of enzyme/substrate ratios. After Pyridoxal phosphate conjugation, the ability of NEIL2 to bind the THF-ligand is completely lost[2].

Reference

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Information for product storage and handling is indicated on the product datasheet. Targetmol products are stable for long term under the recommended storage conditions. Our products may be shipped under different conditions as many of them are stable in the short-term at higher or even room temperatures. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, please follow the storage recommendations on the product data sheet.