Technical Information about 8-[Fluo]-cAMP

Fluorescent analogue of cyclic AMP

Update: April 22, 2014 CT

Abbreviation: 8-[Fluo]-cAMP / 8-[Fluo]-AET-cAMP

<table>
<thead>
<tr>
<th>Formula</th>
<th>CAS No.</th>
<th>Molecular Weight</th>
<th>UV</th>
<th>BIOLOG Cat. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C_{33}H_{27}N_{7}O_{11}PS_{2}Na</td>
<td>[293296-57-8]</td>
<td>815.7</td>
<td>(\lambda_{\text{max}} \approx 494 \text{ nm} / \varepsilon \approx 79000 / \text{pH 9} )</td>
<td>F 002</td>
</tr>
</tbody>
</table>

Name: 8-([2-[Fluoresceinylthiourea]aminoethylthio]adenosine-3', 5'-cyclic monophosphate / syn.: 8-([2-[Fluoresceinylthiourea]aminoethylthio]adenosine-3', 5'-cyclic monophosphate

Description: 8-[Fluo]-cAMP is a fluorescein-modified analogue of the parent second messenger cyclic AMP in which the dye is connected to position 8 of the cyclic nucleotide's adenine nucleobase via a 6-atom spacer.

Properties:
- Fluorescent cAMP analogue: \(\lambda_{\text{exc}} 494 \text{ nm}, \lambda_{\text{em}} 517 \text{ nm}\).
- Potent activator of cAMP-dependent protein kinases and expected to activate cAMP-gated ion channels as well.
- Relatively high metabolic stability against cyclic nucleotide-responsive phosphodiesterases.

Specification: Crystallized or lyophilized sodium salt. Other salt forms of 8-[Fluo]-cAMP are available upon request. Please keep in mind that equal amounts of the compound may look different in volume depending on humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by UV/VIS at \(\lambda_{\text{max}}\). BIOLOG can offer the Rp- and Sp-isomers of the corresponding phosphorothioates as well. For other dyes coupled, please inquire.

Purity: Typical analysis is better than 95% (HPLC / UV / 280 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: 8-[Fluo]-cAMP has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, the compound should be protected from light and stored in the freezer, for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Since cyclic AMP has multiple tasks in every organism it is very likely that lipophilic cAMP analogues will interfere with many cell regulation processes in vivo. However, due to the rather small quantities to work with no health hazards have been reported. Nevertheless please keep in mind that the in vivo properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product. Our products are designed, developed and sold for research purposes only. They are intended for in vitro and nonhuman in vivo laboratory applications. Any other use requires approval of health authorities. Not for drug, household or related uses!
**Solubility**: Detailed information on the solubility of 8-[Fluo]-cAMP in water and various buffers are listed in the solubility chart below. Concentrations have been determined at ambient temperature and can be considered as minimum concentrations usually obtainable, however, slight batch-to-batch variations cannot be ruled out. When opening the tube please make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

<table>
<thead>
<tr>
<th>No.</th>
<th>Solvent</th>
<th>Solubility [mM]</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>H₂O</td>
<td>100</td>
</tr>
<tr>
<td>II</td>
<td>DMSO</td>
<td>0.6</td>
</tr>
<tr>
<td>III</td>
<td>DMF</td>
<td>0</td>
</tr>
<tr>
<td>IV</td>
<td>Ethanol 96%</td>
<td>0</td>
</tr>
<tr>
<td>V</td>
<td>Methanol</td>
<td>50</td>
</tr>
<tr>
<td>VI</td>
<td>PBS, pH 7.4</td>
<td>100</td>
</tr>
<tr>
<td>VII</td>
<td>100 mM Na₂HPO₄, pH 7.0</td>
<td>100</td>
</tr>
<tr>
<td>VIII</td>
<td>25 mM Hepes/NaOH, pH 7.2</td>
<td>100</td>
</tr>
<tr>
<td>IX</td>
<td>25 mMTris/HCl, pH 7.4</td>
<td>100</td>
</tr>
</tbody>
</table>

Selected References for 8-[Fluo]-cAMP:


Selected References for Comparable, but not Identical Compounds:


