Technical Information about P₁⁻ (5'⁻ Adenosyl) - P₄⁻ (5'⁻ uridyl) - tetraphosphate ( Up₄A / Ap₄U )

Update: October 19, 2018

**Abbreviation:**
Up₄A / Ap₄U

<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>C₁₂H₂₁N₇O₂₁P₄ (free acid)</td>
<td>[10527-48-7]</td>
<td>813.4 (free acid)</td>
<td>λ&lt;sub&gt;max&lt;/sub&gt; 260 nm / ε 22700 / pH 7</td>
<td>U 008</td>
</tr>
</tbody>
</table>

**Name:** P₁⁻ (5'⁻ Adenosyl) - P₄⁻ (5'⁻ uridyl) - tetraphosphate / Uridine (5')⁻ adenosine (5')⁻ tetraphosphate / Uridine- adenosine-tetraphosphate

**Description:** Up₄A is a dinucleoside polyphosphate containing both, a purine nucleobase as well as a pyrimidine nucleobase moiety.

**Properties:** Up₄A is a purinoceptor agonist and endothelium-derived vasoconstrictive factor.

**Specification:** Lyophilized or crystallized sodium salt. The free acid or other salt forms are available upon request. Equal concentrations of Up₄A can appear very different in volume due to sensitivity of the lyophilized form to 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 at λ<sub>max</sub>.

**Purity:** Typical analysis is better than 95% (HPLC / UV / 260 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** Up₄A is soluble to at least 32 mM in water. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** Up₄A has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

**Toxicity and Safety:** 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!

**Selected References for Up₄A:**


Bie, P.; Madsen, O.; Wolff, H., FASEB J., 21, 597.7 (2006): "Cardiorenal Effects of Infusion of Uridine Adenosine Tetraphosphate (Up4A) to Conscious Rats: Hypertension and Electrolyte Retention"

