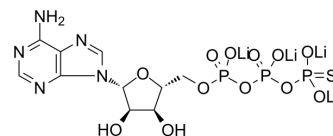


## ATP $\gamma$ S tetralithium salt

|                           |  |
|---------------------------|--|
| <b>Cat. No.:</b>          | HY-108666  |
| <b>CAS No.:</b>           | 93839-89-5   |
| <b>Molecular Formula:</b> | C <sub>10</sub> H <sub>12</sub> Li <sub>4</sub> N <sub>5</sub> O <sub>12</sub> P <sub>3</sub> S                        |
| <b>Molecular Weight:</b>  | 546.98   |
| <b>Target:</b>            | Eukaryotic Initiation Factor (eIF)   |
| <b>Pathway:</b>           | Cell Cycle/DNA Damage  |
| <b>Storage:</b>           | -20°C, sealed storage, away from moisture<br>* The compound is unstable in solutions, freshly prepared is recommended. |



### SOLVENT & SOLUBILITY

|   |  |                      |             |             |             |              |
|---|--|----------------------|-------------|-------------|-------------|--------------|
| <b>In Vitro</b>   | DMSO : 100 mg/mL (182.82 mM; Need ultrasonic)  |                      |             |             |             |              |
|   | H <sub>2</sub> O : 100 mg/mL (182.82 mM; Need ultrasonic)  |                      |             |             |             |              |
|   | <b>Preparing Stock Solutions</b>   | <b>Solvent</b>       | <b>Mass</b> | <b>1 mg</b> | <b>5 mg</b> | <b>10 mg</b> |
|   |  | <b>Concentration</b> |             |             |             |              |
|   |  | <b>1 mM</b>          |             | 1.8282 mL   | 9.1411 mL   | 18.2822 mL   |
| <b>5 mM</b>   |  |                      | 0.3656 mL   | 1.8282 mL   | 3.6564 mL   |              |
|   | <b>10 mM</b>   |                      | 0.1828 mL   | 0.9141 mL   | 1.8282 mL   |              |
| Please refer to the solubility information to select the appropriate solvent. |  |                      |             |             |             |              |
| <b>In Vivo</b>  | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 2.5 mg/mL (4.57 mM); Clear solution |                      |             |             |             |              |
|   | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.5 mg/mL (4.57 mM); Clear solution            |                      |             |             |             |              |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 2.5 mg/mL (4.57 mM); Clear solution                            |                      |             |             |             |              |

### BIOLOGICAL ACTIVITY

|                                     |   |
|-------------------------------------|---|
| <b>Description</b>                  | ATP $\gamma$ S (tetralithium salt) is a substrate for the nucleotide hydrolysis and RNA unwinding activities of eukaryotic translation initiation factor eIF4A <sup>[1]</sup> .   |
| <b>IC<sub>50</sub> &amp; Target</b> | eIF4  |
| <b>In Vitro</b>                     | ATP $\gamma$ S (tetralithium salt) enhances intrinsic fluorescence and induces aggregation which increases the activity of spinach Rubisco activase <sup>[1]</sup> .<br>ATP $\gamma$ S (50-100 $\mu$ M final blood concentration) attenuates inflammatory response with decreased accumulation of cells (48%, |

P < 0.01) and proteins (57%, P < 0.01) in bronchoalveolar lavage and reduces neutrophil infiltration and extravasation of Evans blue albumin dye into lung tissue<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

ATPγS (tetralithium salt, 50 μM final, intravenous) demonstrates preserved lung parenchymal architecture<sup>[3]</sup>.

ATPγS results in a dose-dependent effect on EBA extravasation in LPS-treated mice<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- J Adv Res. 2022 Dec 13;S2090-1232(22)00285-5.

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## REFERENCES

[1]. Matthew L Peck, et al. Adenosine 5'-O-(3-thio)triphosphate (ATPγS) is a substrate for the nucleotide hydrolysis and RNA unwinding activities of eukaryotic translation initiation factor eIF4A. RNA. 2003 Oct;9(10):1180-7.

[2]. ZY Wang, et al. Mg<sup>2+</sup> and ATP or adenosine 5'-[gamma-thio]-triphosphate (ATP γ S) enhances intrinsic fluorescence and induces aggregation which increases the activity of spinach Rubisco activase. Biochim Biophys Acta. 1993 Sep 3;1202(1):47-55.

[3]. Irina A Kolosova, et al. Protective effect of purinergic agonist ATPγS against acute lung injury. Am J Physiol Lung Cell Mol Physiol. 2008 Feb;294(2):L319-24.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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