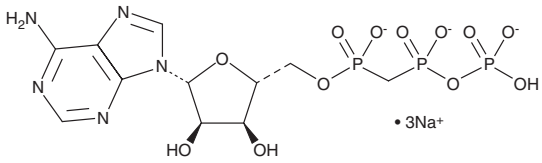
PRODUCT INFORMATION

α,β-Methyleneadenosine 5'-triphosphate (sodium salt)

Item No. 10008956

CAS Registry No.: 1343364-54-4
Formal Name: 5'-[hydrogen P-[[hydroxy (phosphonooxy)phosphinyl] methyl]phosphonate] adenosine, trisodium salt
Synonym: αβ-methylene ATP
MF: $C_{11}H_{15}N_5O_{12}P_3$ • 3Na
FW: 571.2
Purity: ≥95%
UV/Vis.: λ_{max}: 259 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

α,β-Methyleneadenosine 5'-triphosphate (αβ-methylene ATP) (sodium salt) is supplied as a crystalline solid. Aqueous solutions of αβ-methylene ATP (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of αβ-methylene ATP (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

αβ-methylene ATP is a phosphonic analog of ATP that is characterized by the replacement of the bridging oxygen atom between the α- and β-phosphate groups with methylene. It is an agonist of P2X purinoceptors $P2X_1$ and $P2X_3$ (EC_{50} = ~1 µM) and is ~1,000-fold less potent at $P2X_2$, P2X receptors 4-7, and P2Y receptors.[1-4] Persistent activation of purinoceptors results in desensitization, resulting in an antagonist-like effect of αβ-methylene ATP.[5] αβ-methylene ATP is used as a stable analog of ATP to study the interaction of ATP with kinases and other proteins.[6,7] It weakly binds and inhibits adenylate cyclase in a calcium-dependent manner (K_i= ~0.5 mM).[8,9]

References

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