

**MP Biomedicals, LLC**29525 Fountain Parkway  
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## Certificate of Analysis

**Product Description:** Adenosine, free base, cell culture reagent  
**Catalog Number:** 194609  
**Lot:** QR12359

**Formula:**  $C_{10}H_{13}N_5O_4$ **CAS #:** 58-61-7**Physical Description:** White Powder**Formula Weight:** 267.2**Storage:** -20°C

| Test                           | Specification        | Result               |
|--------------------------------|----------------------|----------------------|
| Identity Test                  | Passes               | Passes               |
| Purity                         | ≥98%                 | 100.7%               |
| FTIR                           | Conforms to Standard | Conforms to Standard |
| Melting Point                  | 228 - 236°C          | 234 - 235°C          |
| UV/VIS: $\lambda$ max (1N HCl) | 255 - 260 nm         | 257 nm               |
| OD250/OD260                    | 0.80 - 0.90          | 0.84                 |
| OD280/OD260                    | 0.17 - 0.24          | 0.22                 |

Loss on drying: 0.1%

Residue on ignition: 0.1%

Specific rotation: -69.5°

Heavy metals: ≤10 ppm

Acidity or alkalinity: Conforms to USP35

Limit of chloride: ≤0.007%

Limit of ammonia: ≤0.0004%

Limit of sulfate: ≤0.02%

Assay (HPLC): Conforms to USP35

Assay (HClO<sub>4</sub>): 100.7%

Adenine: 0.0%

Total impurities: 0.2%

Guanosine: Undetected

Uridine: 0.0%

Inosine: 0.0%

Recommended Retest Date: 08/31/2017

A handwritten signature in black ink, appearing to read 'J. Huang'.

06/23/2016 - John Huang, PhD  
MP Biomedicals, LLC.  
Quality Control Manager

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