



The Power to Question

# CERTIFICATE OF ANALYSIS

Catalog Number: sc-482598  
Lot Number: SAMPLE  
Product Name: Methotrexate  $\gamma$ -Methyl Ester  
CAS Number: 67022-39-3  
Molecular Formula:  $C_{21}H_{24}N_8O_5$   
Molecular Weight: 468.47  
Native Source: Synthetic

| Test                               | Specification | Result                                    |
|------------------------------------|---------------|-------------------------------------------|
| Appearance                         |               | Orange-yellow solid                       |
| Identification ( $^1H$ -NMR)       |               | Consistent with structure                 |
| Identification (Mass Spectrometry) |               | Consistent with structure                 |
| Purity (HPLC)                      |               | 98.14%                                    |
| TLC                                |               | Complies                                  |
| Atmosphere                         |               | Inert gas                                 |
| Melting Point                      |               | > 161 °C(dec.)                            |
| Solubility                         |               | Aqueous Based (Slightly), DMSO (Slightly) |
| Specific Rotation                  |               | +16.9 ° (c=0.2, 0.1N NaOH)                |
| Carbon Content                     | 53.84%        | 51.04%                                    |
| Hydrogen Content                   | 5.16%         | 5.48%                                     |
| Nitrogen Content                   | 23.92%        | 22.57%                                    |

Satisfaction Guarantee: We appreciate your business and are committed to providing the highest level of quality and service. Any product that does not meet the performance standards indicated in our product literature will be replaced at no charge. Our policy is valid for one year from the date of your purchase.

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