### 1. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batch Molecular Formula:</td>
<td>$\text{C}<em>9\text{H}</em>{14}\text{N}_4\text{O}_5$</td>
</tr>
<tr>
<td>Batch Molecular Weight:</td>
<td>258.23 g</td>
</tr>
<tr>
<td>Physical Appearance:</td>
<td>Off White solid</td>
</tr>
<tr>
<td>Solubility:</td>
<td>water to 75 mM DMSO to 75 mM</td>
</tr>
<tr>
<td>Storage:</td>
<td>Store at -20°C</td>
</tr>
<tr>
<td>Batch Molecular Structure:</td>
<td>![Image of molecular structure]</td>
</tr>
</tbody>
</table>

### 2. ANALYTICAL DATA

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPLC</td>
<td>Shows 100% purity</td>
</tr>
<tr>
<td>$^1\text{H NMR}$</td>
<td>Consistent with structure</td>
</tr>
<tr>
<td>Mass Spectrum:</td>
<td>Consistent with structure</td>
</tr>
<tr>
<td>Microanalysis:</td>
<td>Carbon Hydrogen Nitrogen</td>
</tr>
<tr>
<td></td>
<td>Theoretical 41.86 5.46 21.69</td>
</tr>
<tr>
<td></td>
<td>Found 42 5.47 21.78</td>
</tr>
</tbody>
</table>

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use
Product Name: AICAR Catalog No.: 2840

IUPAC Name: $N^1$-(β-D-Ribofuranosyl)-5-aminoimidazole-4-carboxamide

Description:
Cell-permeable, allosteric activator of AMP-activated protein kinase (AMPK). Augments proliferation, differentiation and mineralization of osteoblastic MC3T3-E1 cells and attenuates psychosine-induced expression of proinflammatory cytokines and iNOS in astrocytes. Promotes osteogenic differentiation of hAMSCs and BM-MSCs in vitro.

Physical and Chemical Properties:
- Batch Molecular Formula: $C_{10}H_{13}N_4O_5$
- Batch Molecular Weight: 258.23
- Physical Appearance: Off White solid

Minimum Purity: >99%

Storage: Store at -20°C

Solubility & Usage Info:
- water to 75 mM
- DMSO to 75 mM

Stability and Solubility Advice:
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:
- SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
- SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References: