**Product Name:** Biocytin  
**Catalog No.:** 3349  
**Batch No.:** 5

**CAS Number:** 576-19-2  
**IUPAC Name:** $N^6$-[5-[[3aS,4S,6aR]-Hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl]-1-oxopentyl]-L-lysine

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C$_{16}$H$_{28}$N$_4$O$_4$S.$\frac{3}{4}$H$_2$O  
**Batch Molecular Weight:** 385.99  
**Physical Appearance:** Off-white solid  
**Solubility:** water to 50 mM with gentle warming  
**Storage:**  
1.1eq. NaOH to 100 mM  
Store at -20°C

**Batch Molecular Structure:**

![Molecular Structure](image)

### 2. ANALYTICAL DATA

**$^1$H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Optical Rotation:** $[\alpha]_D = +50$ (Concentration = 1.05, Solvent = 0.1N NaOH)  
**Microanalysis:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Theoretical</th>
<th>Found</th>
<th>Difference</th>
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<tbody>
<tr>
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<tr>
<td>Hydrogen</td>
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<td>7.62</td>
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<tr>
<td>Nitrogen</td>
<td>14.51</td>
<td>14.33</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Product Name:** Biocytin  
**CAS Number:** 576-19-2  
**IUPAC Name:** \( \text{N}^{6}\{5\{3aS,4S,6aR\}-\text{Hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl\}-1-oxopentyl\}-\text{L-lysine} \)

**Description:**  
Versatile marker used in anterograde, retrograde and intracellular neuroanatomical investigations and in biotinidase assays. Displays high solubility in aqueous solutions and has a low molecular weight facilitating injection using micropipettes. Can be incorporated with a variety of avidin and streptavidin conjugates for detection by light, fluorescence or electron microscope.

**Physical and Chemical Properties:**  
Batch Molecular Formula: \( \text{C}_{10}\text{H}_{20}\text{N}_{2}\text{O}_{3}\text{S} \cdot \text{H}_{2}\text{O} \)  
Batch Molecular Weight: 385.99  
Physical Appearance: Off-white solid

**Batch Molecular Structure:**

**Storage:** Store at -20°C

**Solubility & Usage Info:**
water to 50 mM with gentle warming  
1.1eq. NaOH to 100 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:**  