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SUBJECT OF INVESTIGATION

EXPLORATION OF NEW CHEMOTHERAPEUTICS FOR INFECTIOUS DISEASES.

RESPONSIBLE INVESTIGATOR

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ABSTRACT

1) Protomycin, a new amoebic substance was produced by a new strain Streptomyces reticuli var. protomycicus, was determined chemical properties and structure. Most subjects are planted the mass production of Protomycin, subsequently treated amoebic patients with it.

2) As a new other antibacterial and antifungal substance was found in this Streptomyces cultural media the substance was tried to purify and crystallize at the present time. Finally a antibacterial substance was crystallized as a colorless needle crystalline substance. The chemical properties of this crystalline substance were as follows:

- Melting point: 212-213°C
- Methanol (EtOH) 232 mL (ρ EtOH = 30°C)
- Elemental analysis: C 61.78%, 68.95%, H 7.65%, 7.74%, N 0%
- Molecular weight: 542.65

Antimicrobial activity of this crystalline substance: The minimal inhibitory concentration of the substance was 1 mcg/ml - 1000 mcg/ml to gram positive bacteria, but this did not show inhibitory effects to gram negative bacteria. The substance showed inhibitory effects to some pathogenic microbes of plants as follows:

<table>
<thead>
<tr>
<th>Organisms</th>
<th>Minimal inhibitory concentration (mcg/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xanthomonas oryzae</td>
<td>15</td>
</tr>
<tr>
<td>Cladosporium werneke</td>
<td>4</td>
</tr>
<tr>
<td>Botrytis</td>
<td>4</td>
</tr>
<tr>
<td>Colletrium</td>
<td>4</td>
</tr>
<tr>
<td>Piricularia oryzae</td>
<td>250</td>
</tr>
</tbody>
</table>
3) The purification methods of Cephalomycin, a high molecular anti-Japanese Encephalitis virus substance have been searched.