alcohol which can be seen from the fact that the relative reaction rates of the potassium and the sodium derivative of ethyl acetoacetate are almost equal.

In this connection it can be pointed out that a similar difference in reaction rates with different alkali derivatives of acetylacetone has been reported by the present author. This was at first considered as a pure solubility effect, but further measurements showed that this is not the complete truth. Similar effects were observed in the methylation of ethyl a-cyanopropionate, ethyl a-carboxethoxyalpropionate and ethyl acetoacetate with different alkali carbonates, but these kinetic results were not accurate enough to give any precise information about the mechanism.


Received December 15, 1952.

On the Structure of Nebularine

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Nebularine, a principle active against Mycobacteria and present in the mushroom Agaricus (Clitocybe) nebularis, has been studied since 1945 by Löfgren et al.1–3. — We have now succeeded in isolating the compound in a pure state, m.p. 181–182° (corr.). The elementary analysis shows that the compound has the empirical formula C_{10}H_{12}N_{4}O_{4}. The hydrolysis gave the components purine and D-ribose. This is the first time purine has been demonstrated to be a component of a natural product. From spectroscopical data it can be concluded with high probability that the D-ribose is connected at position 9 of the purine nucleus. It is therefore possible to state that nebularine is 9-(D-ribosyl)purine:

\[
\begin{array}{c}
\text{H} \\
\text{N} \\
\text{C} \\
\text{C} \\
\text{C} \\
\text{N} \\
\text{CH} \\
\text{D-ribose}
\end{array}
\]

Nebularine has a high activity against different types of tuberole bacilli in vitro (no experiments performed in vivo). Thus for instance, the bacteriostatic activity of nebularine on Mycobacterium avium in Dorset substrate is 1 : 3 000 000 after 12 days and 1 : 2 000 000 after 30 days. — We found it to retard strongly the growth of barley seedlings and furthermore experiments on Allium roots show C-mitosis and chromosome breaks in a dilution of 1 : 100 000.

A full report will be published later.


Received December 18, 1952.

* Experiments performed by H. Hedström.
** Experiments performed by B. Kihlman.