Table 2. EFFECT OF BENZYLADENINE ON THE INCORPORATION OF LABELLED ADENINE AND OROTIC ACID INTO INSOLUBLE RNA, COMPARED WITH THE WATER CONTROL, IN THE PRIMARY BEAN LEAVES

Labelled bases	Effect of water treatment: Incorporation (c.p.m./100 mg fresh weight)	Mean error of mean value	Specific activity (c.p.m./mg of ribose)	Effect of benzyladenine floating: Incorporation (c.p.m./100 mg fresh weight)	Mean error of mean value	Specific activity (c.p.m./mg of ribose)	Effect of treatment on the stimulation compared with the water control (per cent)
8-^{14}C-Adenine	34,840	572	67,000	82,820	1,371	159,200	237
2-^{14}C-Orotic acid	42,810	653	82,320	97,420	1,642	187,300	227

In 100 mg of fresh weight of leaves was 0·52 mg of ribose.

Table 3. EFFECT OF PSEUDOTHYMINE ON THE INCORPORATION OF LABELLED ADENINE AND URACYL INTO INSOLUBLE RNA, COMPARED WITH THE WATER CONTROL, IN THE PRIMARY BEAN LEAVES

Labelled bases	Effect of water treatment: Incorporation (c.p.m./100 mg fresh weight)	Mean error of mean value	Specific activity (c.p.m./mg of ribose)	Effect of 6-methyluracyl floating: Incorporation (c.p.m./100 mg fresh weight)	Mean error of mean value	Specific activity (c.p.m./mg of ribose)	Effect of treatment compared with the water control (per cent)
8-^{14}C-Adenine	12,290	187	23,630	19,590	312	37,670	159
2-^{14}C-Uracyl	10,440	163	20,070	13,250	206	25,480	127

In 100 mg fresh weight of leaves was 0·52 mg of ribose.

incorporation of the labelled adenine was nearly as great as that of the orotic acid (Table 2). Our results indicate that pseudothymine stimulates the incorporation of labelled adenine and uracil into the insoluble RNA fraction compared with the water control (Table 3). The effect of pseudothymine, which has a pyrimidine structure, is analogous to the hormone-like activity of benzyladenine. This may indicate that both purine and pyrimidine derivatives have the same biological effectiveness.

The purine and pyrimidine derivatives which we investigated were incorporated in very small amounts into the insoluble RNA, but they were characteristically accumulated in the soluble RNA (*t*RNA ?). Assuming the Watson–Crick model, it is evident that the base-analogues act on the stimulation of protein synthesis by increasing the level of *t*RNA. We could, however, demonstrate that the purine and pyrimidine derivatives have a stimulating and regulating effect on the incorporation of natural nucleobases into the insoluble RNA, so that it is impossible to interpret the stimulating effect on the basis of the Watson–Crick model. It is interesting, however, that base-analogues are accumulated only in the soluble RNA fraction (*s*RNA, *t*RNA), but we do not know the form in which they are involved in the stimulation of incorporation of natural nucleobases into the RNA. We finally conclude that not only purine but also pyrimidine derivatives, such as pseudothymine, have a hormone-like effect, by stimulating nucleic acid synthesis.

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L-2-Amino-3-phenyl-1-propanol (L-Phenylalaninol) as a Constituent of a Fungal Metabolite

We have investigated the structure of a biologically active polypeptide compound, antiamoebin, isolated from the mycelium of the organism *Emericellopsis poonensis* Thirum. by Thirumalachar (personal communication). On acid hydrolysis this substance gave an organic base which was identified as L-2-amino-3-phenyl-1-propanol (L-phenylalaninol).

When refluxed with 6 N hydrochloric acid for 28 h, antiamoebin gave a basic compound, which gave a positive ninhydrin reaction and R_F value of 0·72 in the solvent system *n*-BuOH : AcOH : H_2O; 4 : 1 : 5. The base was purified by distillation and recrystallization from benzene. The melting point was 95° C, and $[\alpha]_D^{24°} - 25{\cdot}76$ (C 3·3, ethanol) analysis gave C : 71·78 per cent, H : 8·52 per cent, N : 8·93 per cent. The molecular weight (by the Rast method) was 153. From the analysis and the molecular weight the molecular formula was calculated as $C_9H_{13}NO$ (calculated values for $C_9H_{13}NO$, C : 71·52 per cent, H : 8·61 per cent, N : 9·27 per cent and a molecular weight of 151).

Characteristics of derivatives were as follows. (1) Dibenzoyl derivative, melting point 169° C; analysis gave C : 76·9 per cent, H : 5·82 per cent, N : 3·62 per cent and a molecular weight (by the Rast method) of 359. The calculated values for $C_{23}H_{21}NO_3$ are C : 76·88 per cent, H : 5·85 per cent, N : 3·89 per cent and molecular weight 359. (2) Acid oxalate, melting point 180° C; analysis gave C : 55·00 per cent, H : 6·16 per cent, N : 5·80 per cent. The calculated values for $C_{11}H_{15}NO_5$ are C : 54·77 per cent, H : 6·22 per cent, N : 5·81 per cent.

These properties identified the base as L-2-amino-3-phenyl-1-propanol. The reported values for this compound are melting point 95° C, $[\alpha]_D^{24°} - 23{\cdot}3$ (C 2·01, methanol)[1] and the melting point for acid oxalate 177° C (ref. 2). The identity was further confirmed by the mixed melting point, infrared spectrum and paper chromatographic behaviour of the authentic sample.

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RNA in the Elementary Bodies of Trachoma Agent

Trachoma agent, a member of the psittacosis–lymphogranuloma–trachoma (PLT) group, is an obligate parasite of the conjunctival cells in the human eye. Some strains, at least, retain their infectivity for the human eye after adaptation to growth and several passages in human cell cultures[1,2]. The infectious particles of trachoma agent are 0·3 μm in diameter and contain both DNA and RNA[3].