Table 1. TESTING THE ANTIPYRETIC ACTION OF *l*-PHENYL-3,5-PYRAZOLIDINEDIONE (Ia) ON RABBITS
(Dose, 100 mgm./kgm. body-weight by stomach tube)

Rabbit	Weight (gm.)	Normal rectal temperature (°C.)	Temperature before administration	1 hr. after giving drug	2 hr. after	3 hr. after	Sum of differences	Mean
A	900	38.9	40.6	39.9	39.3	39.7	2.9	2.9
B	970	39.0	40.0	39.0	39.0	39.2	2.8	
C	1,150	39.2	40.1	39.4	39.3	39.0	2.6	
D	1,450	39.0	40.9	39.6	39.3	39.4	4.4	
E	1,450	39.1	40.9	40.5	40.3	40.4	1.5	
F	1,500	39.1	41.2	40.4	40.2	39.8	3.2	

Table 2. TESTING THE ANTIPYRETIC ACTION OF AMINOPYRINE ON RABBITS
(Dose 100 mgm./kgm. body-weight by stomach tube)

Rabbit	Weight (gm.)	Normal rectal temperature (°C.)	Temperature before administration	1 hr. after giving drug	2 hr. after	3 hr. after	Sum of differences	Mean
A	1,000	38.6	40.3	38.8	38.7	38.7	4.8	3.32
B	1,170	39.2	40.4	39.8	39.5	39.5	2.4	
C	1,300	38.8	40.9	39.3	39.1	39.2	5.1	
D	1,450	39.1	40.9	40.9	40.4	40.8	0.6	
E	1,670	39.4	40.8	39.7	39.7	39.3	3.7	

We would like to report the antipyretic action of Ia. The method adopted was that of Brownlee². Animals weighing between 1 and 2 kgm. were selected and kept without food, though given water. T.A.B. vaccine was used intravenously in the ear vein in a dose of 2 ml./kgm. of the undiluted vaccine. The rise of temperature was evident 1 hr. after the injection, and after 2 hr. the temperature was sufficiently steady for the antipyretic test to be carried out. Aminopyrine was taken as a standard for comparison. The results are tabulated in Tables 1 and 2. The temperature was recorded hourly for 3 hr. after giving both compounds.

The two figures for the mean of the sum of differences indicate that Ia is 87.3 per cent as active as aminopyrine as an antipyretic agent.

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Trehalose Metabolism of Trypanosomes

THE trypanosomes causing African sleeping sickness from the blood of man and other animals can be cultivated on non-living media. Such cultures exhibit one striking peculiarity: as soon as established they are not infectious for mammals.

I have reported that, when trehalose is added to blood agar medium, infectious cultures of *Trypanosoma rhodesiense* are obtained, indicating that trehalose participates in the control of infectivity in this system¹.

It is now known that, in natural circumstances, trehalose is available to the trypanosomes within their insect hosts. Tissue analyses were performed on *Glossina palpalis* and *G. brevipalpis*, vectors of human trypanosomiasis captured in the field in Africa. The trehalose content of the intestine ranged

from 10 to 19 mgm./100 gm. of tissue². Trypanosomes migrate extensively within *Glossina*, during which migration they lose and then regain infectivity. Exposure to trehalose during the non-infectious intestinal phase is of interest as possibly relating to the ultimate regain of infectivity.

Strains of both *T. gambiense* and *T. rhodesiense* have now been found which are activated by trehalose. It has also become clear that trehalose is not the only factor which controls infectivity; for strains sensitive to trehalose suddenly lose this sensitivity after passage. This loss has taken place with a strain isolated directly from man after six subcultures and a total period *in vitro* of 69 days, and more rapidly with strains received after passage in animals. Apparently, at least two factors are concerned. One is known: trehalose; the other or others are responsible for the utilization of trehalose, and remain to be identified. Thus far only strains recently isolated from man have proved sensitive to trehalose; conversely, old laboratory strains are usually insensitive. The practical problem of having suitable strains to work with may be met, at least in part, by storage of the trypanosomes at -70°C. and thus avoiding passage. Such material has been activated by trehalose after 104 days at -70°C.

Loss of sensitivity to trehalose is one more example of the extreme lability of *T. rhodesiense* and *T. gambiense*, for it is already known that during laboratory maintenance in animals these trypanosomes lose their cultivability^{3,4} and become unable to develop in *Glossina*^{5,6}.

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