LETTERS TO THE EDITOR

The Urinary Excretion of ^{14}C-Labelled Butylated Hydroxytoluene by the Rat

SIR,—The urinary excretion of tritiated butylated hydroxytoluene (BHT) in the rat was recently described by Golder, Ryan and Wright (1962). At dose levels of 100 μg. per rat the total amount of radioactivity recovered in the urine was 34·5 per cent after four days. It was, however, pointed out that this result might be in error because of the unknown amount of oxidation and hence loss of tritium from the molecule by metabolic reactions. Dacre (1961) has shown that the major metabolites of BHT in rabbits is 3,5-di-t-butyl-4-hydroxybenzoic acid, arising from oxidation of the methyl group. In the excretion studies by Golder, Ryan and Wright (1962), it was shown that nearly half the total tritium in the BHT was attached to the methyl group. It was, accordingly, highly desirable to confirm the previous excretion results and this has now been done using ^{14}C-labelled material.

TABLE I

URINARY EXCRETION OF BHT.^{14}C* BY THE RAT

Day	No. of experiments	Mean per cent of radio activity excreted
1	6	7
2	6	10
3	6	10
4	6	6
	Total excretion ..	33

* Dose (i.p.) 100 μg. (5·45 × 10^5 d.p.m.).

The results are set out in Table I. We have found using ^{14}C-labelled BHT that the recovery of radioactivity is very close to that found previously with tritiated material. This result is interesting since, coupled with the tritium work, it leads to the conclusion that at low dose levels, oxidation of the methyl group does not appear to be a major metabolic pathway in rats. This may be of some importance in the toxicity of this compound. We are at present attempting to identify the substances excreted at low dose level.

L. G. LADOMERY
A. J. RYAN
S. E. WRIGHT

Department of Pharmacy,
University of Sydney,
Sydney, Australia.

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