

ISOQUINOLINE ALKALOID BIOSYNTHESIS FROM ADRENAL CATECHOLAMINES DURING ^{14}C -METHYL ALCOHOL METABOLISM IN RATS. M. A. Collins* and G. Cohen, Biochem. Dept., Loyola Med. Sch., Maywood, Ill. 60153 (MAC) and Biochem. Dept., Columbia Univ., New York 10032 (GC).

Fluorescence microscopy studies have indicated that adrenal tetrahydroisoquinolines (TIQs) form in rats during methyl alcohol (MeOH) intoxication (Cohen, Barrett, Fed. Proc. 28, 288, 1969). Radiochemical confirmation was sought for these alkaloids, which are condensation products of endogenous adrenaline (A) or noradrenaline (NA) with the formaldehyde generated during MeOH metabolism. Rats received 6 i. p. injections (13 μc /injection) of ^{14}C -MeOH in saline (spec. act. 8.5 mc/mM) over 30 hours. 12 hours later, pooled adrenals were homogenized with cold HCl-ethanol, stored at 4°C for 18 hours and centrifuged. "Cold" carrier TIQs were added to the supernatant; the TIQs plus A and NA were extracted and purified with an $\text{Al}(\text{OH})_3$ procedure. Thin layer chromatography radioassay showed the presence of ^{14}C -TIQs; A and NA were not radioactive. This demonstration of TIQ biosynthesis during alcohol metabolism suggests that TIQs may form in brain and nerves from the intermediate aldehydes generated during MeOH poisoning or ethanol intoxication in alcoholics. (Supported by USPHS Grant MH-17071.)

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Isoquinoline Alkaloid Biosynthesis from Adrenal Catecholamines during C-14 Methyl Alcohol Metabolism in Rats.
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