

### The Presence of Conjugated Dopamine in Normal Human Plasma

Although dopamine has been identified in free form in adrenal medulla,<sup>1)</sup> brain, spleen, splenic nerves, pancreas, lung, liver and intestine,<sup>2)</sup> and also in urine (about 500  $\mu\text{g}$  per day) both in free and conjugated form, it has not been found in normal human plasma,<sup>3)</sup> probably owing to its low concentration. We found dopamine mostly in conjugated form at the level of ng per ml in normal human plasma by large volume injection method.<sup>4)</sup>

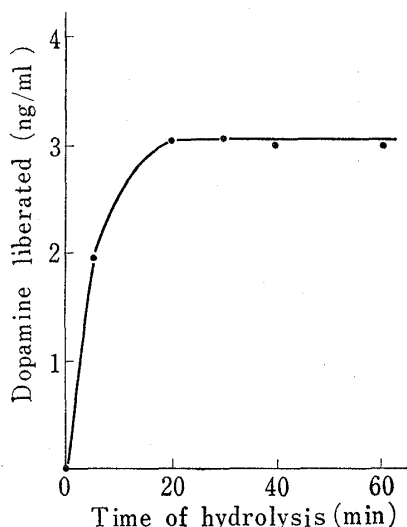


Fig. 1. Plasma Dopamine Liberated by Acid Hydrolysis

Blood was obtained with a heparinized syringe from normal adults. The plasma was prepared by centrifugation of the blood at 4000  $\times g$  for 30 min, and deproteinized with perchloric acid at the final concentration of 0.4N. Centrifugation of the solution at 20000  $\times g$  for 30 min separated the clear supernatant, which was sealed in a siliconized glass tube *in vacuo* and heated at 100°. As shown in Fig. 1, free dopamine was liberated in 20 min and determined by gaschromatography previously reported.<sup>4,5)</sup> The identification was carried out by comparison of the retention times on columns of 2% GE-XF 1105 and 2% QF-1 with those of authentic dopamine.

The type of conjugation of plasma dopamine was suggested to be a sulfate from its behavior in acid hydrolysis (Fig. 1), and detailed studies are under continuation.

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