



Fig. 1. Prothrombin time as a function of composition of plasma mixture.

K: plasma from vitamin K-deficient chick.

D: » » dicumarol-poisoned »

We have called this new factor the  $\kappa$ -factor in absence of an appropriate name characterizing its function in prothrombin activation. Its adsorption characteristics are very similar to those of prothrombin, but it is distinctly different from this protein. It is also different from the most labile factor in chicken plasma (corresponding to factor V of mammalian plasma). It seems possible that the  $\kappa$ -factor of chicken plasma could have the same function as the factor in mammalian plasma, which on coagulation gives rise to the SPCA (serum prothrombin conversion accelerator) of Alexander and co-workers<sup>5</sup>. The synthesis of the  $\kappa$ -factor is obviously independent of vitamin K.

The properties and function of the  $\kappa$ -factor are being studied further.

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Received March 24, 1950.

## Dihydroxyphenylalanine and Hydroxytyramine in Mammalian Suprarenals

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In addition to adrenaline, extracts of mammalian suprarenals have recently been shown to contain *noradrenaline* (Holtz and Schümann<sup>1</sup>, Goldenberg, Faber, Alston and Chargaff<sup>2</sup>, Bergström, Euler and Hamberg<sup>3</sup>). Hitherto, there has been no indication in the suprarenals of other catechols (Goldenberg *et al.*<sup>2</sup>). However, it is said that hydroxytyramine occurs in urine (Holtz) and has recently been found in extracts of heart (Goodall)<sup>4</sup>.

When the suprarenal extracts of sheep were subjected to paper chromatography, an additional catechol spot was observed. This spot was identical with hydroxytyramine both as to color and to position. Further, this identity was substantiated by exposing the extract chromatogram to two different solvent systems, *i. e.* *N*-butanol/*NHCl* and phenol/*H*<sub>2</sub>O.

In the suprarenal extracts prepared from thyroidectomized sheep, another spot has been observed. This spot, however, agreed in position and color with dihydroxyphenylalanine (DOPA). Again the identity was substantiated by preparing the paper chromatogram with different effluents, butanol and phenol.

The presence of hydroxytyramine in normal sheep suprarenals and of DOPA in the suprarenals of thyroidectomized sheep is suggestive of the role that hydroxytyramine and DOPA may play as precursors to *noradrenaline*, and also the possible importance of thyroxin to such a change. Blaschko<sup>5</sup> first suggested these compounds as precursors to *noradrenaline*.

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