〔Clin. Chem., **31**, 596 (1985)〕

Head-Space Gas-Chromatographic Determination of 3-Hydroxybutyrate in Plasma after Enzymic Reactions, and the Relationship among the Three Ketone Bodies.

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In this sensitive, reproducible method for determination of D-3-hydroxybutyrate (3-OHB) in plasma, it is converted to acetone by use of 3-hydroxybutyrate dehydrogenase/lactate dehydrogenase coupled with acetoacetate decarboxylase. The resulting acetone is detected by head-space gas chromatography. The lowest concentration of 3-OHB detectable in plasma was 2 μmol/L. The calibration curve showed a linear relationship for 3-OHB concentration from 0 to 5 mmol/L ($r=0.999$). Analytical recovery of 3-OHB (50 μmol/L) was 97.9 (SD 3.8)%. In diabetic patients, the ratio correlated with the logarithm of the total ketone body concentration ($r=0.828$).

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Synthesis of a Tripentacontapeptide with Epidermal Growth Factor Activity.

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The tripentacontapeptide corresponding to the entire linear sequence of epidermal growth factor was synthesized by assembling 15 peptide fragments and one His residue (position 22), followed by deprotection with trifluoromethanesulfonic acid-thioanisole in trifluoroacetic acid. The deprotected peptide was subjected to air-oxidation. After purification by ion-exchange chromatography on diethyl aminoethyl cellulose followed by high performance liquid chromatography, a peptide with powerful anti-gastric activity was obtained.

〔J. Biochem., **98**, 1509 (1985)〕

Kinetics of the Hydrolysis of Monodispersed Dihexanolyllecithin Catalyzed by a Cobra (*Naja naja atra*) Venom Phospholipase A_2

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The hydrolysis of 1, 2-dihexanoyl-*sn*-glycero-3-phosphorylcholine, catalyzed by a cobra venom phospholipase A_2, was studied at 25°C and ionic strength 0.1 in the presence of 3-10 mM Ca^{2+}. The initial velocity data were analyzed according to the Michaelis-Menten equation. The Km value was practically independent of pH. This finding was consistent with the result of a direct binding study on monodispersed n-alylphosphorylcholines. The hydrolysis of the substrate was competitively inhibited by the presence of monodispersed n-dodecylphosphorylcholine. These results indicated that the substrate and n-dodecylphosphorylcholine compete for the same site on the enzyme molecule.