failure to prepare a deoxyribokinase extract, compared to the ease with which a ribokinase could be prepared from *E. coli* make us believe that the degradation of 2-deoxy-D-ribose does not start with the formation of 2-deoxy-D-ribose-5-phosphate. It is also possible that the difference is due to extreme lability of the enzymes attaching 2-deoxy-D-ribose.

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The Effect of Estradiol Pretreatment on Hexokinase Activity of Rat Uterine Muscle *

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Previous investigations in this laboratory have shown that administration of estradiol monobenzoate to rats increases glycogen content of uterine muscle and stimulates glucose uptake of the surviving uterine muscle. These findings indicated a study of whether hexokinase activity is increased after pretreatment with estradiol.

Hexokinase activity of extracts from uterine muscle of rats has been determined 48 h after subcutaneous injection of 50 μg estradiol monobenzoate in previously ovariectomized animals. 10 % homogenate of uterine muscle was prepared in 0.03 M tris(hydroxymethyl)-aminomethane buffer, pH 8.2, which contained 0.0012 M EDTA (versene). After centrifugation at 4 000 × *g* for 20 min the supernatant was used for determination of hexokinase activity. Aliquots of the extract (usually 20 mg tissue equivalent) were incubated with 1.5 μM glucose, 4 μM ATP, 5 μM $MgCl_2$, 20 μM KF at 37 °C for 30 min. Incubation was made in 0.033 M tris buffer in a total volume of 1.0 ml. Hexokinase activity was determined by the glucose disappearence method.

Hexokinase activity increased in linear correlation with time during incubation up to 30 min and was proportional with the amounts of extract added. After pretreatment with estradiol monobenzoate hexokinase activity was increased by 100 % above the control values in ovariectomized rats. This was a relatively specific effect as the "specific activity" (μmole glucose phosphorylated per mg protein in 30 min) was increased by 75 %.

Experiments were performed to decide if the increased hexokinase activity was due to activation of pre-existing enzyme or to stimulation of enzyme synthesis by pretreatment with estradiol. Therefore several properties of hexokinase activity of uterine muscle in controls and after administration of estradiol were studied. These experiments included the effect of pH, the affinity to ATP, protection by EDTA, inhibition by glucose-6-phosphate, inhibition by *p*-chloromercuribenzoate. No indication was obtained that these properties were changed after pretreatment with estradiol. The results indicate that administration of estradiol monobenzoate increases hexokinase activity of uterine muscle by stimulation of enzyme synthesis.

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Studies in the Mechanism of Bile Acid Formation

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In order to study the mechanism of the reactions involved in the transformation of cholesterol into bile acids we have prepared cholesterol stereospecifically labelled with tritium in the 7α- or 7β-position.

Some data on the metabolism of these compounds will be presented and discussed.