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INCREASED LEVELS OF hGH BINDING SITES IN LIVER MICROSOMES OF PREGNANT WOMEN

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A ^{125}I -hGH (human growth hormone labelled with ^{125}I) radioreceptor assay with microsomes of human liver obtained at autopsy (2♂, 1♀, 2 pregnant ♀ and 1 male foetus) and at surgery for a liver tumour (1♂) was developed. hGH preparations were from IPEN. ^{125}I -hGH was done by the chloramine T method.

It was shown that liver microsomes of pregnant women attained 16.0 to 45.0% specific binding of ^{125}I -hGH added to the assays against 0.4 to 6.8% for the other subjects tested. Scatchard analysis suggested the presence of two receptors of different affinities for hGH in the liver of pregnant women.

This is the first report showing increased amounts of hGH binding sites in the liver of human pregnancy. These receptors might be related to foetal development. Presently, we are performing additional experiments to test this hypothesis.

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ML9

POLYAMINES AND DIVALENT CATION INFLUENCES ON hGH-RECEPTOR BINDING IN LIVER MICROSOMES OF PREGNANT WOMAN

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Mg^{++} , Ca^{++} , Ba^{++} , polyamines and arginine influences on ^{125}I -hGH (human growth hormone labelled with ^{125}I) binding to liver microsomes of pregnant woman were analysed. Almost no specific hGH binding occurred without Mg^{++} , Ca^{++} , Ba^{++} or polyamines. Specific binding was greatly increased by these divalent cations and polyamines, however. Mg^{++} was less active than Ba^{++} and Ca^{++} and the later probably has greater physiological importance in this process. Polyamines stimulated ^{125}I -hGH-receptor binding in physiological concentrations with increased potency in the sequence: putrescine, spermidine and spermine. In a molar basis spermine was 5 and 10 times more potent than Ca^{++} and Mg^{++} , respectively. Arginine had no action on hGH-receptor binding, suggesting some structural specificity of polyamines in this reaction. Similar results were obtained with liver microsomes of pregnant rabbit.

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