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P. Tuohimaa, A. Niemelä, J. Isola and T. Ylikomi

FURTHER STUDIES WITH POLYCLONAL ANTIBODIES AGAINST THE CHICK OVIDUCT PROGESTERONE RECEPTOR. Dept. of Biomedical Sciences, University of Tampere, Finland.

An antiserum against a highly purified chick oviduct progesterone receptor B-subunit was raised in a male rabbit (1). The specificity of the IgG fraction was studied by the protein A-sepharose, the Western blotting and the sucrose gradient ultracentifugation. The cytocol of the chick oviduct homogenate, the nuclear and microsomal fractions were prepared as described earlier (2,3). The histochemistry of the receptor was performed as described by Gasc et al (4). The antibodies recognized all ligand binding forms of the receptor (A- and B-subunit and 'mero'-receptor). When B-subunit was competed with an excess of unlabelled A- or B-subunit for IgG binding, both showed parallel slopes of the competition curve indicating similarities between the receptor forms. The 8S-receptor forms was recocnized significantly less than 4S-form by the IgG indicating that the 8S-receptor contains antigens (probably 90K-protein) which is not present in the 4S-form. The microsomal receptor was recognized by the IgG and its concentration appeared to be dependent on the steroid treatment similarly as the cytosolic receptor concentration. It is possible that the microsomal as well as the cytosolic receptor may be isolation artefact (leakage from the nuclei) due to the tissue homogenization, since histochemistry showed that both occupied and unoccupied receptor were intranuclear.

REFERENCES: Tuohimaa et al : 1. Biochem.Biophys.Res.Comm. 119:433-439,1984. 2. Wolfson et al: Ibid. 95:1577-1584,1980. 3. Haukkamaa et al: Molec.Cellul. Endocr. 19:123-130,1980. 4. Gasc et al : J.Cell Biol. 99:1193-1201,1094.

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125I-(Z)-17α-iodovinyl-steroid derivatives: A new approach for synthesis of specific γ-emitting ligands for progesterone (PgR), estrogen (ER) and androgen receptor (AR) determinations

H.J.Grill, H.Hofmeister+, H.Laurent+, P.E.Schulze+,W.Elger+, A.Heubner, B.Manz and K.Pollow

Abt. f. Experimentelle Endokrinologie, Univ. Frauenklinik Mainz, FRG.

+ Forschungslabors Schering AG, Berlin, FRG.

Determination of steroid receptors has up to now been mainly depending on tritium labeled ligands.We have synthesized (Z)-17α-iodovinyl-derivatives of the following steroids: estradiol, moxestrol, testosterone, 19-nor-testosterone, 18-methyl-19-nor-testosterone, 5α-androstan-3-one-17β-ol, 5α-androstan-3,17β-ol and others.The relative binding affinities (RBA) to ER, PgR, AR, GlucR, SHBG and CBG will be presented. The first 125I-labeled compound was 125I-SH-D510 ((Z)-17β-hydroxy-17α-(2-(125I)-iodovinyl)-4-estren-3-one). This stable ligand showed similar binding characteristics to human uterine PgR as 3H-R5020 (4S and 8S binding on sucrose gradients, identical PgR concentrations in 100 human breast cancer samples by Scatchard plot analysis, identical activation of PgR on DNA cellulose) but an improved RBA to PgR but neglectible binding to GlucR.