逆相樹脂に吸着させた妊婦尿中ペプチドからのhCGとそのサブユニットの効果的な精製

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Effective Purification of Human Chorionic Gonadotropin and Its Subunits from Pregnant Women's Urinary Peptides Adsorbed on Reverse-Phase Resin

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ABSTRACT Human chorionic gonadotropin (hCG) was extracted and purified by reverse-phase resin (Sepralyte C_8 resin) adsorption and Sephadex G-100 column chromatography from urine of pregnant women. Approximately 15000 IU of hCG was recovered from 1000 ml of urine by C_8 resin adsorption. hCG from the gel-filtration step stimulated testosterone production in rat Leydig cells and had a specific activity of approximately 8000 IU/mg, a value which was higher than those of commercial hCGs. Furthermore, hCG purified to near-homogeneity was separated effectively into its subunits by reverse-phase high-performance liquid chromatography using an acetonitrile gradient in the presence of 0.1% trifluoroacetic acid with no special pretreatment for dissociation of subunits. The separated subunits were able to re-associate. The techniques used are simple and may be suitable for not only laboratory but also industrial production of hCG and its subunits.

抄録　ヒト絨毛性ゴナドトロピン（hCG）の簡便な精製法とサブユニットの分離法を開発した。妊婦尿中ペプチドを逆相樹脂に吸着させて得られた抽出物をセファデックスG－100によるゲル濾過で精製したところ，わずか2段階の操作で市販製剤より高い比活性を有するものが得られた。さらに，0.1%トリフルオロ酢酸存在下，アセトニトリルのグラジェントを用いる逆相HPLCで，hCGを前処理することなしにそのサブユニットに分離することができた。

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