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Characterization and immortalization of Normal Human Endometrial Cells

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Endometrial tissue is an interesting model for intrinsic and extrinsic factors, ie hormones and growth factors, involved in its normal pathologic development and its cyclic growth. The endometrial cells were isolated from endometrial tissue of the proliferative phase obtained by hysterectomy and separated stromal and epithelial cells. Epithelial cells were polyhedral and grew as islands in a whorl-like pattern around glandular fragments. Stromal cells were spindle-shaped, more long-lived and grew rapidly to form parallel bundles of cells. The populations exhibited over 95% homogeneity, ascertained by immunocytochemical and western blot analyse. In addition, immortalized endometrial stromal cell lines were established by stable transfection of a plasmid vector encoding the SV40 (Simian Virus 40) large T antigen. Immortalized cell lines kept the phenotype of the normal cells from which they derived. Therefore, these results suggest that established immortal endometrial cells might be good model for the cancer and cell biological studies. This work was supported by a grant of the Korea Health 21 R&D Project, Ministry of Health & Welfare, Republic of Korea.

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