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Cell Growth Effects of Triiodothyronine and Expression of Thyroid Hormone Receptor in Prostate Carcinoma Cells

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Thiiodothyronine (T3) plays an important role in the regulation of cell growth and differentiation. In this study, we show the different effects of T3 on cell growth response and expression of the thyroid hormone receptor in human prostate cell lines from normal to hormonal refractory metastatic cancer cells. Although the thyroid hormone receptor (TRß1) ubiquitously express in human prostatic epithelium cell lines (PZ-HPV-7, CA-HPV-10, LNCaP, DU145, PC-3), T3 did not show any effect on the cell proliferation of prostatic cell lines except LNCaP cells in vitro. Immunoblot assay revealed that PZ-HPV-7 and CA-HPV-10 cells express 5-10-fold of TRß1 more than LNCaP cells; however, the immunocytochemical staining and immunoblot assay of cellular fractions suggested the TRß1 is located on the cell nuclear membrane of PZ-HPV-7 and CA-HPV-10 cells. Our results suggested that T3 upregulates cellular proliferation on LNCaP cells but not other prostatic carcinoma cells and PZ-HPV-7 and CA-HPV-10 cells express the novel TRß1, which locates at cell nuclear membrane.

Key words: Cell proliferation, LNCaP, PC-3, PZ-HPV-7, CA-HPV-10, DU145

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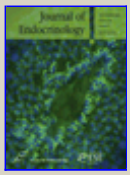

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