

Journal of Andrology, Vol. 26, No. 3, May/June 2005  
Copyright © [American Society of Andrology](#)  
DOI: 10.2164/jandrol.04162

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

MING-LI HSIEH\* AND HORNG-HENG JUANG†

From the \* Department of Urology, Chang Gung Memorial Hospital; and † Department of Anatomy, Chang Gung University, Kwei-Shan, Taiwan, Republic of China

Correspondence to: Dr Horng-Heng Juang, Department of Anatomy, Chang Gung University, 259 Wen-Hua 1st Road, Kwei-Shan, Tao-Yuan 333, Taiwan, Republic of China (e-mail: hhj143{at}mail.cgu.edu.tw).

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 (TR $\beta$ 1) 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 TR $\beta$ 1 more than LNCaP cells; however, the immunocytochemical staining and immunoblot assay of cellular fractions suggested the TR $\beta$ 1 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 TR $\beta$ 1, which locates at cell nuclear membrane.

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

This article has been cited by other articles:



Journal of ANDROLOGY

▶ HOME

K.-H. Tsui, T.-H. Feng, C.-M. Lin, P.-L. Chang, and H.-H. Juang  
Curcumin Blocks the Activation of Androgen and Interlukin-6 on  
Prostate-Specific Antigen Expression in Human Prostatic Carcinoma  
Cells

J Androl, November 1, 2008; 29(6): 661 - 668.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)

## This Article

- ▶ [Full Text](#)
- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

## Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

## Citing Articles

- ▶ [Citing Articles via HighWire](#)
- ▶ [Citing Articles via Google Scholar](#)

## Google Scholar

- ▶ [Articles by Hsieh, M.-L.](#)
- ▶ [Articles by Juang, H.-H.](#)
- ▶ [Search for Related Content](#)

## PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Hsieh, M.-L.](#)
- ▶ [Articles by Juang, H.-H.](#)

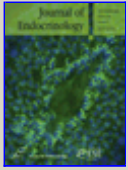


F. Flamant, K. Gauthier, and J. Samarut

Thyroid Hormones Signaling Is Getting More Complex: STORMs Are Coming

Mol. Endocrinol., February 1, 2007; 21(2): 321 - 333.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



B. Anguiano, A. Lopez, G. Delgado, C. Romero, and C. Aceves

Deiodinase type 1 activity is expressed in the prostate of pubescent rats and is modulated by thyroid hormones, prolactin and sex hormones.

J. Endocrinol., August 1, 2006; 190(2): 363 - 371.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)