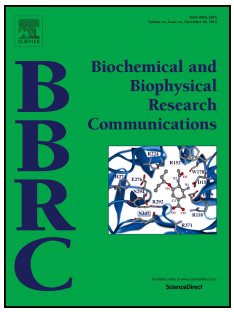
Accepted Manuscript



1,25(OH)2D3 attenuates TGF-β1/β2-induced increased migration and invasion via inhibiting epithelial-mesenchymal transition in colon cancer cells

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PII: S0006-291X(15)30843-3

DOI: 10.1016/j.bbrc.2015.10.146

Reference: YBBRC 34830

To appear in: *Biochemical and Biophysical Research Communications*

Received Date: 22 October 2015

Accepted Date: 27 October 2015

Please cite this article as: S. Chen, J. Zhu, S. Zuo, J. Ma, J. Zhang, G. Chen, X. Wang, Y. Pan, Y. Liu, P. Wang 1,25(OH)2D3 attenuates TGF-β1/β2-induced increased migration and invasion via inhibiting epithelial-mesenchymal transition in colon cancer cells, *Biochemical and Biophysical Research Communications* (2015), doi: 10.1016/j.bbrc.2015.10.146.

1,25(OH)2D3 attenuates TGF-β1/β2-induced increased migration and invasion via inhibiting epithelial-mesenchymal transition in colon cancer cells

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Abstract

1,25-Dihydroxyvitamin D3 (1,25(OH)2D3) has been reported to inhibit proliferation and migration of multiple types of cancer cells. However, the mechanism underlying its anti-metastasis effect is not fully illustrated. In this study, the effect of 1,25(OH)2D3 on TGF-β1/β2-induced epithelial-mesenchymal transition (EMT) is tested in colon cancer cells. The results suggest that 1,25(OH)2D3 inhibited TGF-β1/β2-induced increased invasion and migration of in SW-480 and HT-29 cells. 1,25(OH)2D3 also inhibited the cadherin switch in SW-480 and HT-29 cells. TGF-β1/β2-induced increased expression of EMT-related transcription factors was also inhibited by 1,25(OH)2D3. 1,25(OH)2D3 also inhibited the secretion of MMP-2 and MMP-9 and increased expression of F-actin induced by TGF-β1/β2 in SW-480 cells. Taken together, this study suggests that the suppression of EMT might be one of the mechanisms underlying the anti-metastasis effect of 1,25(OH)2D3 in colon cancer cells.

Key words: 1,25(OH)2D3, Colon cancer, EMT, VDR, SW-480, HT-29

1. Introduction

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