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The role of the corepressor N-CoR1 related to TNF-alpha-mediated apoptosis in Breast cancer cells

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We have investigated the role of corepressor N-CoR1 in ER α (+) breast cancer cells. The nuclear receptor corepressor NCoR1 plays an important role in the TNF-alpha-mediated apoptosis, but little is known about what regulates ER alpha-NCoR complex in breast cancer cells. Therefore, we have found that TNF-alpha markedly down-regulates NCoR1 protein levels in ER α (+) MCF7 breast cancer cells. Also, the reduced NCoR1 expression by TNF- α was induced the down-regulation of ER α protein levels in the MCF7 cells. This result suggests that NCoR1 expression may be involved in the TNF- α -mediated apoptosis of ER α (+) breast cancer cells. Interestingly, the phosphorylation of NCoR1 by CK2 inhibited the ubiquitin-dependent proteasomal degradation of NCoR1 in the TNF- α -treated MCF7 breast cancer cells. Eventually, the down-regulation of NCoR1 and ER by TNF- α was increased the activation of p53. Thus, our results show a mechanism by which the TNF- α treatment induces the dissociation of ER α -NCoR-p53 complexes and activates the p53-dependent pro-apoptosis target genes through the acetylation of p53. These findings reveal that ER -p53-NCoR complexes represses the transcription activity of apoptosis genes, such as p21, Bax and Puma.

Biography

Seung-Ho Park has studied his MS course from University of Ulsan College of Medicine. His major is Medical Science. He heartily has been studying at Therapy of breast cancer. He recently published paper in Journal of Medicinal Food.

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