

#2521 The expression of the normal epithelial cell-specific 1 (NES1) gene is regulated by steroid hormones. Luo, L.Y., Grass, L., Diamandis, E.P. *Department of Pathology and Laboratory Medicine, Mount Sinai Hospital, Department of Laboratory Medicine and Pathobiology, University of Toronto, Toronto, Ontario, M5G 1X5, Canada.*

The normal epithelial cell-specific 1 (NES1) gene was previously found to be down-regulated during breast cancer progression. This gene encodes a serine protease, however, how it relates to breast cancer progression remains unknown. In this study, we investigated the effect of different steroid hormones on the NES1 gene expression using the BT-474 breast cancer cell line. This cell line was cultured in RPMI media supplemented with glutamine (200 mmol/L), bovine insulin (10 mg/L), fetal bovine serum (10%), antibiotics and antimycotics in a plastic flask near to confluence, then aliquoted into 24-well tissue culture plates in phenol red-free media containing 10% charcoal-stripped fetal bovine serum and cultured to confluence. Then the cells were stimulated by 17- β estradiol, dehydrotestosterone or norgestrel, ranging from 10^{-12} M to 10^{-7} M. 24 hours later, the cells were collected for mRNA analysis. The reverse transcriptase-polymerase chain reaction (RT-PCR) was employed to monitor the NES1 mRNA change after the steroid hormone stimulation. Our results indicated that estrogens, androgens and progestins were able to up-regulate the expression of the NES1 gene in the BT-474 breast cancer cell line through their own receptors, in a time and dose-dependant manner. We conclude that the NES1 gene is regulated by the action of multiple steroid hormones.