
Subject: Minox inhibiert 5-AR2 (in vitro)

Posted by [krx](#) on Fri, 10 Aug 2018 09:11:01 GMT

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<https://www.ncbi.nlm.nih.gov/pubmed/30064598>

Zitat:Although more than three decades have passed since the first use of minoxidil in androgenetic alopecia (AGA), its mechanisms of action have still not been comprehensively understood. 5 α -reductase (5 α -R) has an active role as the predominant enzyme in both AGA and female pattern hair loss (FPHL), which are also the main therapeutic indications of topical minoxidil. But there is insufficient literature data regarding the interaction of minoxidil and the enzyme 5 α -R. Herein, we studied the in vitro expression levels of 5 α -R type 2 (5 α -R2) in a minoxidil-treated human keratinocyte cell line (HaCaT) in order to elucidate the relation of these two parameters. Cell proliferation assay was performed by a XTT reagent (a yellow tetrazolium salt). After determination of non-cytotoxic concentration, HaCaT cells were treated with minoxidil. Ribonucleic acid (RNA) isolations were carried out from both non-treated and treated cell groups using a TRI reagent (an RNA, DNA, and protein isolation reagent). Gene expressions of 5 α -R2 as study material and glyceraldehyde-3-phosphate dehydrogenase (GAPDH) as the control were determined by real time-quantitative polymerase chain reaction (RT-qPCR) analysis. Results were represented as 5 α -R2 / GAPDH fold change. Minoxidil treatment resulted in a 0.22 fold change for 5 α -R2 ($p < 0.0001$). This antiandrogenic effect of minoxidil, shown by significant downregulation of 5 α -R2 gene expression in HaCaT cells, may be one of its mechanisms of action in alopecia.
