

Analysis of mechanism of inhibition of hair growth by depletion of phospholipid hydroperoxide glutathione peroxidase in mice and rescue effects of vitamin E.

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Phospholipid hydroperoxide glutathione peroxidase (PHGPx) is an important antioxidant enzyme that could directly reduce phospholipid hydroperoxide in biomembrane induced by oxidative stress. In this study we found that disruption of PHGPx by treatment of tamoxifen in skin of tamoxifen- inducible PHGPx KO mice could induce loss of hair follicle morphogenesis without damage of skin tissue. And co-treatment of vitamin E with tamoxifen could suppress the delay of hair follicle morphogenesis, indicating that generation of phospholipid hydroperoxide in skin might affect the hair follicle formation in adult mice.