

INDUCTION BY *EPIDERMOPHYTON FLOCCOSUM* OF HUMAN FIBROBLAST MATRIX METALLOPROTEINASE-9 SECRETION *IN VITRO*

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Abstract. Skin infection from pathogenic dermatophyte, *Epidermophyton floccosum*, can cause serious health complications, especially in immuno-compromised patients. Proteolytic enzymes secreted from *E. floccosum* are required for host tissue degradation, facilitating fungal invasion. However, little is known regarding host matrix metalloproteinase (MMP) expression during *E. floccosum* infection. In this study human foreskin fibroblast (HFF) cell line was used to determine MMP-9 protease activity by gelatin zymography and amount by ELISA. *E. floccosum* induced HFF secretion of MMP-9 in a time dependent manner, but HFF cell viability decreased. Treatment with an MMP inhibitor (SB-3CT) caused reduction in *E. floccosum*-induced secreted MMP-9 and improvement in HFF cell viability. These findings indicate a possible control measure for protecting skin from *E. floccosum* infection.

Keywords: *Epidermophyton floccosum*, antifungal activity, fungal infection, human foreskin fibroblast, matrix-metalloproteinase-9, MMP inhibitor (SB-3CT)

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