

COSMETICS

Matrix Metalloproteinase 1 (MMP1) activity

The matrix metalloproteinase-1 (MMP-1) is an interstitial collagenase or fibroblast collagenase. The MMPs are responsible for the degradation of the extracellular matrix including collagens, elastins, gelatin, matrix glycoproteins and proteoglycan during normal development and disease processes^{1,2,3}.

Test system: MMP-1 Enzyme

Experimental number: Three per group in triplicate

Reference Item: Inhibitor Control (1 μ M GM 6001)

Main read-outs: Ex/Em = 490/520 nm.

The RFU of fluorescence generated by hydrolyzation of substrate is Δ RFU = R2 – R1.

Validation Data

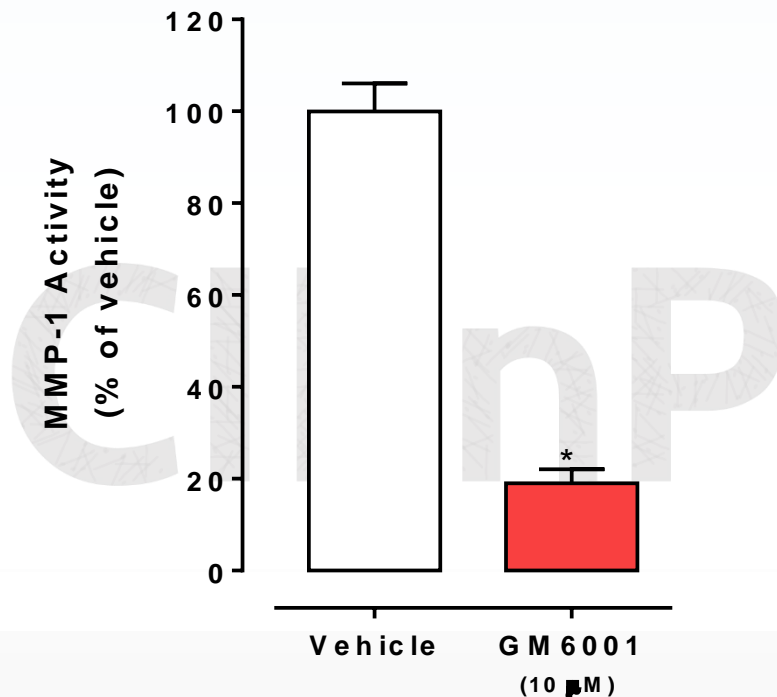


Figure: Evaluation of MMP-1 activity and enzymatic inhibition of GM6001. The figure represent the inhibition of MMP-1 after incubation of GM6001 (10 μ M), when compared with control group (vehicle). Each column represents the mean \pm SEM of 3 experiments per group in triplicate. Statistical analyses used was t-test. *, P < 0.05, versus vehicle group.

All in vitro experiments are performed in triplicate wells for each condition and repeated at least three times.

References:

- ¹Induction and repression of collagenase-1 by keratinocytes is controlled by distinct components of different extracellular matrix compartments. Sudbeck BD, Pilcher BK, Welgus HG, Parks WC. J Biol Chem. 1997 Aug 29;272(35):22103-10.
- ²MMP-1 polymorphism and its relationship to pathological processes. Arakaki PA, Marques MR, Santos MC. J Biosci. 2009 Jun;34(2):313-20.
- ³Beneficial Regulation of Matrix Metalloproteinases for Skin Health. Neena Philips, Susan Auler, Raul Hugo, and Salvador Gonzalez. Enzyme Research Volume 2011 (2011), Article ID 427285, 4 pages

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