

CANNABIS SATIVA L. EXTRACT
REDUCES INFLAMMATORY MARKERS
IN HUMAN FIBROBLASTS AND KERATINOCYTES

SPEAKER
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**CANNABIS
SATIVA L.**

FIBROBLASTS

WOUND
INJURY

KERATINOCYTES

CBD

SKIN
INFLAMMATION



INNSBRUCK
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DERMATITIS AND PSORIASIS ARE INFLAMMATORY SKIN DISEASES IN WHICH **KERATINOCYTES AND FIBROBLASTS** PLAY A KEY **ROLE** IN THE RELEASE OF PRO-INFLAMMATORY MEDIATORS (E.G. IL-8, MMP9, VEGF, AND NF- κ B).

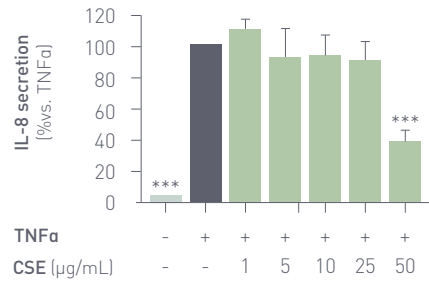
Linnea Cannabis sativa L. extract (CSE), standardized in Cannabidiol (CBD) 5%, inhibits the release of proinflammatory mediators in human fibroblasts and keratinocytes, acting on NF- κ B pathway, and on markers involved in wound healing and skin inflammation.



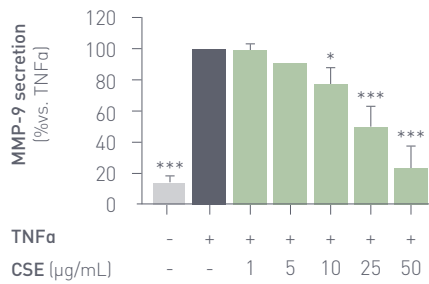
Effect of Linnea Cannabis sativa L. extract on TNF α - induced IL-8 (A), MMP-9 (B), NF- κ B (C) and VEGF (D) release in keratinocytes (role in the initiation and perpetuation of skin inflammatory and immunological responses).

▼ KERATINOCYTES

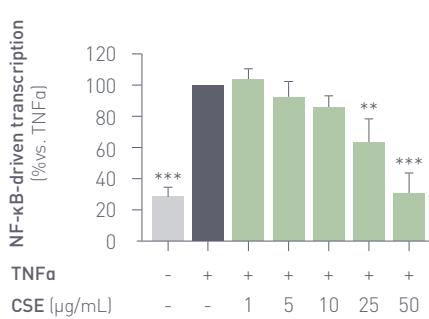
A. IL-8 secretion inhibition: IC₅₀ = 43.5 μ g/mL



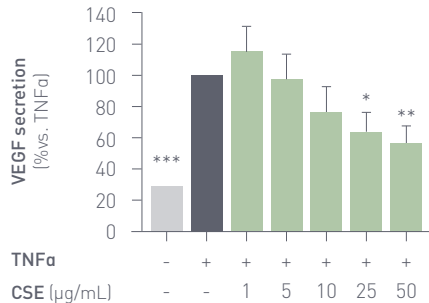
B. MMP-9 secretion inhibition: IC₅₀ = 18.0 μ g/mL



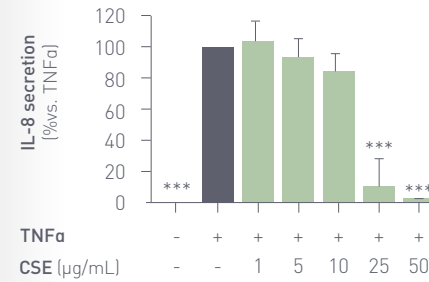
C. NF- κ B transcription inhibition: IC₅₀ = 21.4 μ g/mL



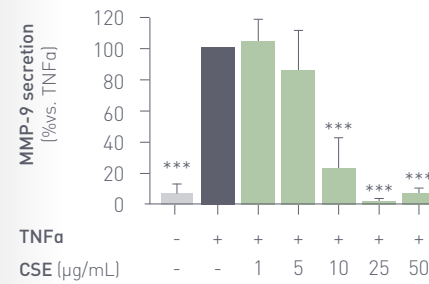
D. VEGF secretion inhibition: IC₅₀ = 26.8 μ g/mL



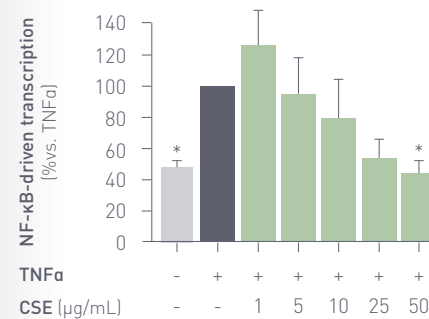
E. IL-8 secretion inhibition: IC₅₀ = 15.1 μ g/mL



F. MMP-9 secretion inhibition: IC₅₀ = 7.2 μ g/mL



G. NF- κ B transcription inhibition: IC₅₀ = 12.3 μ g/mL



*p < .05, **p < .01, ***p < .001 versus TNF α

Data are expressed in percentage, relative to the stimulated control, to which is arbitrarily assigned the value of 100%.

REFERENCES

Sangiovanni E. et alii (2019). Cannabis sativa L. extract and cannabidiol inhibit in vitro mediators of skin inflammation and wound injury. *Phytotherapy research*, 33:2083-2093.

▲ FIBROBLASTS

Effect of Cannabis sativa L. (Linnea extract) on TNF α - induced IL-8 (E), MMP-9 (F), and NF- κ B (G) release in fibroblasts (deeply involved in wound healing).

THE FLOWERED TOPS OF CANNABIS SATIVA L. (HEMP) CONTAIN THE **HIGHEST CONCENTRATION OF CANNABINOIDS** INCLUDING CANNABIDIOL (CBD), WITHOUT PSYCHOTROPIC ACTIVITY.

Linnea guarantees the standardization of Cannabis extracts in Cannabidiol and the consistency of the Phytocomplex, in line with the highest pharmaceutical quality standards, to assure a reproducible effect.



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