



MUCOSAVE™ CG

MUCOADHESIVE BARRIER BLEND FOR SENSITIVE MUCOSAE PROTECTION



INCI NAME: Opuntia ficus-indica stem extract,
Olea europaea (Olive) leaf extract, Maltodextrin

MUCOSAVE™ CG is a blend of two plant extracts combining the strong physical protection of Opuntia bioadhesive polysaccharides with the soothing effect of olive leaf biophenols.

STANDARDIZATION: Polyphenols as Luteolin
7-O-Glucoside and Polysaccharides

PARTICULAR SIGN: Natural Origin Index
(ISO 16128):1

Sustainable ingredient from co-products with
a circular economy process

SENSITIVE MUCOSAE PROTECTION

TARGET: SENSITIVE MUCOSAE

**RECOMMENDED USAGE
CONCENTRATION**

0,5 - 1,5%

Mucosal surfaces play a key protective role and help shield the body from continuous exposure to external agents. When their physiological barrier is weakened, mucosae become more vulnerable and more prone to irritation, pain, discomfort, and increased sensitivity. This is especially relevant for delicate areas such as the oral and vaginal mucosa, where barrier alteration can significantly affect local comfort and quality of life.

COSMETIC BENEFITS



**MUCOSAL
PROTECTION
ON VAGINAL CELLS**



**HIGHER MUCO-
ADHESIVITY THAN
HYALURONIC ACID**



**MUCOSAL
PROTECTION
ON BUCCAL CELLS**



**SOOTHING AND
CALMING ACTIVITY**

APPLICATIONS



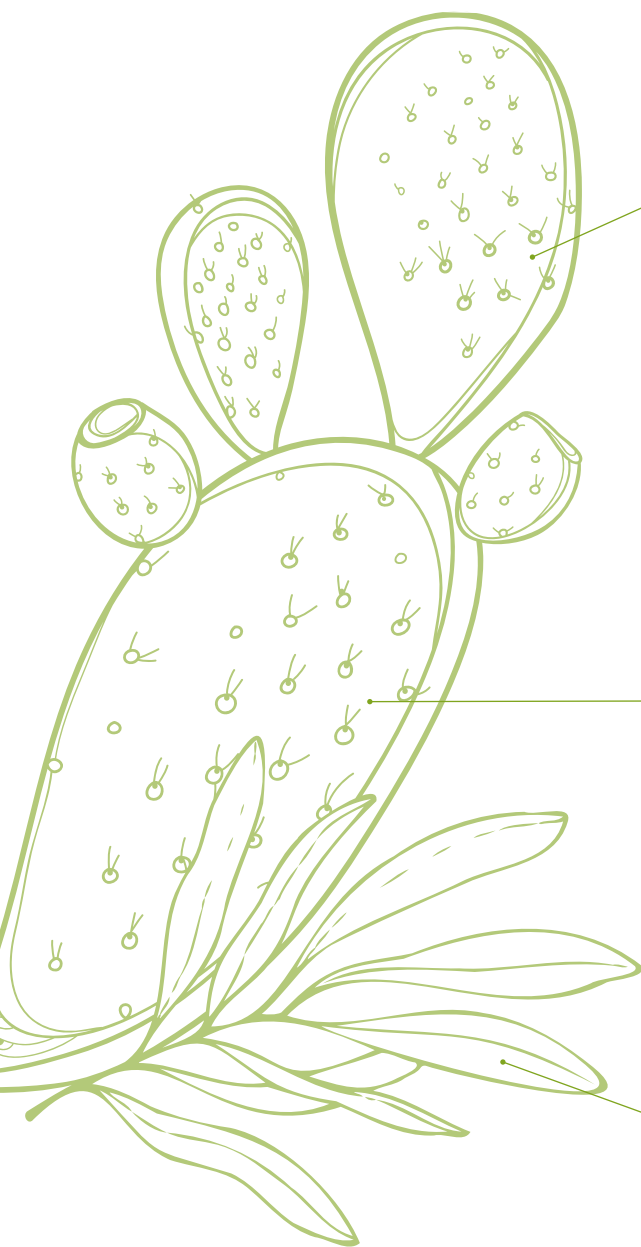
ORAL CARE



INTIMATE CARE

WHAT IT DOES

MUCOSAVE™ CG has been evaluated for oral and vaginal mucoadhesivity and anti-inflammatory activity in in vitro and ex vivo models.



ORAL MUCOADHESIVITY **TESTED IN VITRO AND** **IN A TOOTHPASTE FORMULATION**

- Shows high mucoadhesivity on buccal cells
- Enhances mucoadhesion in toothpaste formulations over time
- Helps protect the mucosal surface through prolonged adhesion

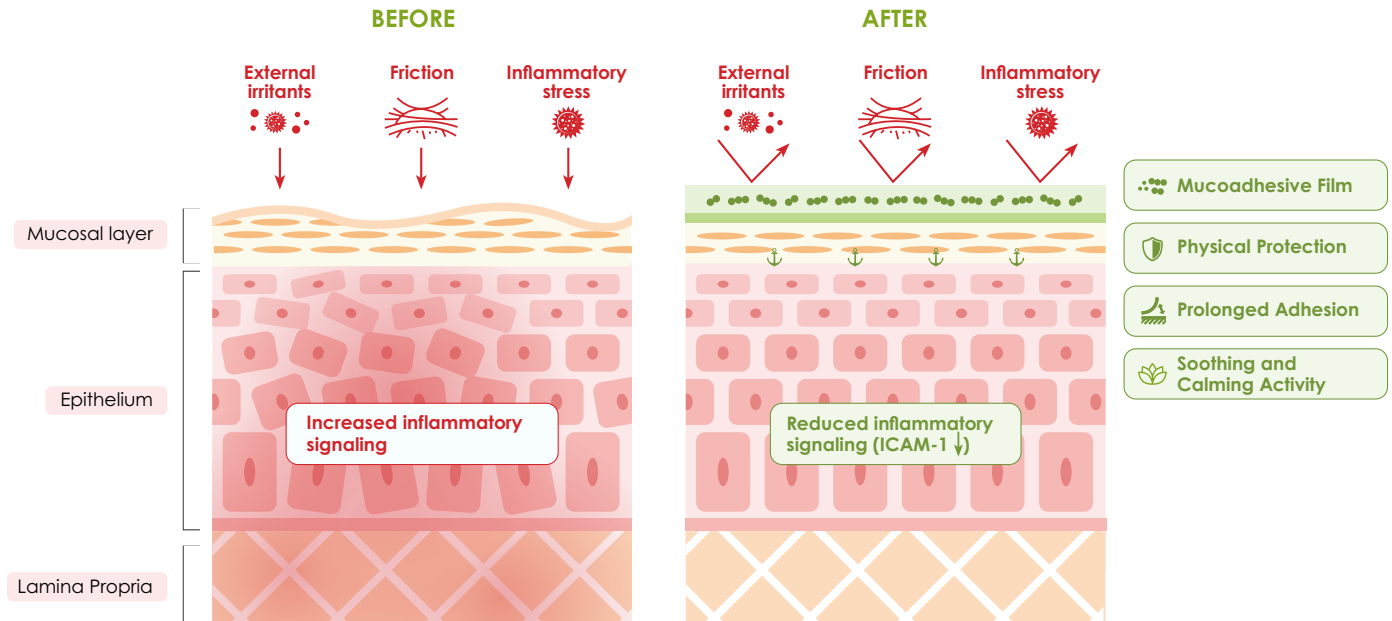
VAGINAL MUCOADHESIVITY **TESTED IN VITRO ON VAGINAL TISSUE**

- Adheres to vaginal mucosal tissue
- Shows concentration-dependent mucoadhesivity
- Supports protective surface coverage

ORAL ANTI-INFLAMMATORY **ACTIVITY** **TESTED IN VITRO ON BUCCAL CELLS**

- Demonstrates anti-inflammatory activity on mucosal cells
- Inhibits ICAM-1 overexpression
- Supports mucosal soothing

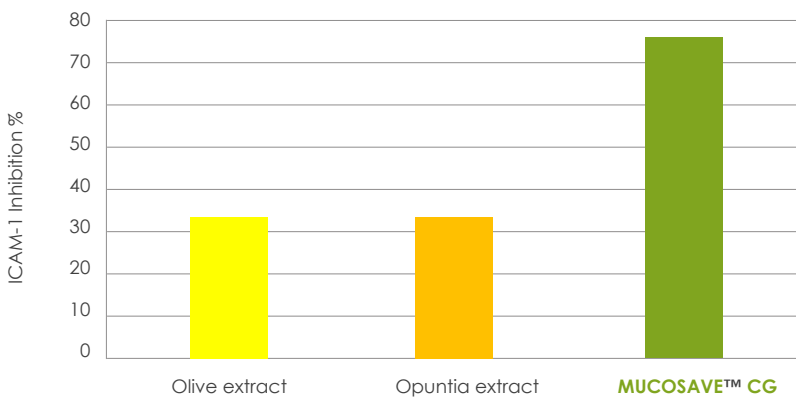
MECHANISM OF ACTION



MUCOSAVE™ CG combines properties of Opuntia and olive extracts to deliver a **dual protective action** on sensitive mucosae. The Opuntia polysaccharides adhere to mucosal surface glycoproteins, forming a **mucoadhesive protective film** that physically shields the epithelium from external irritants and discomfort, ensuring **prolonged mucosal protection**. At the same time, olive biophenols reduce inflammatory signaling by inhibiting **ICAM-1 overexpression**, supporting **barrier recovery** and local comfort.

ANTI-INFLAMMATORY ACTIVITY

The anti-inflammatory activity of **MUCOSAVE™ CG** was evaluated in vitro on a mucosal cell model (Caco-2 line), measuring ICAM-1 inhibition, a key mediator of mucosal inflammatory processes.

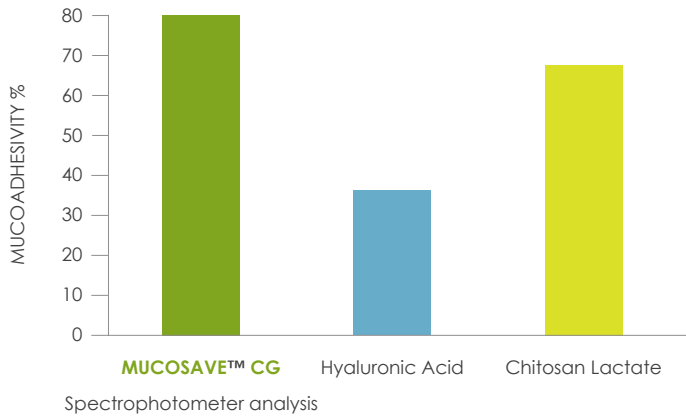


MUCOSAVE™ CG inhibits ICAM-1 overexpression in a synergistic manner compared to its single ingredients.

ORAL MUCOADHESIVITY



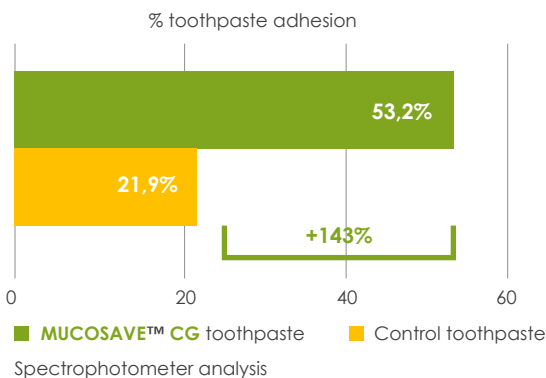
ON ORAL BUCCAL CELLS



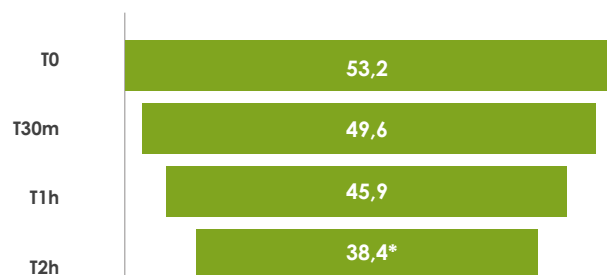
MUCOSAVE™ CG exhibited an extremely high mucoadhesive ability compared with hyaluronic acid and chitosan lactate, providing a protective physical barrier to the mucosal surface.

ON A TOOTHPASTE

When incorporated into a toothpaste **MUCOSAVE™ CG** increased mucoadhesion by **+143%** compared to the control formulation, and maintained significant adhesion to buccal cells for up to 1 hour, confirming sustained mucosal protection.

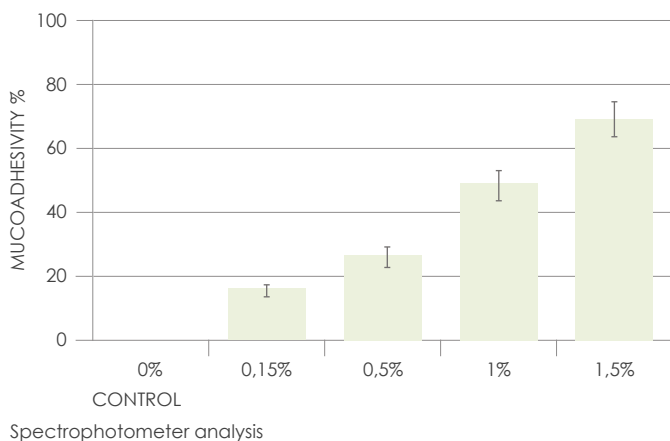


% MUCOSAVE™ CG toothpaste adhesion over time



Inside the bars is reported the intragroup (active vs. T0) statistical analysis. * p<0,05

VAGINAL MUCOADHESIVITY



On an EpiVaginal™ cell model, **MUCOSAVE™ CG** demonstrated concentration-dependent mucoadhesion up to **70%**

BIBLIOGRAPHY: Rizza L et al. Caco-2 cell line as a model to evaluate mucoprotective properties. Int J Pharm 422(1-2):318-322 (2012)