






PLANTS FOR GUT REGULARITY

 <p>Mucilages: increase of fecal mass, gut transit improvement</p> <p>Fermentation produces SCFAs with prokinetic effects</p>	 <p>Sugars: osmotic laxative (they attract water into the gut lumen)</p>	 <p>Oil: lubricating and softening action</p>	 <p>Irritating effect on the colon mucosa that stimulates intestinal motility</p> <p>Safety concerns Short-term use</p>	 <p>Isorhamnetin derivatives: prokinetic activity (ACh mediated)</p> <p>Polysaccharides / fibers: prokinetic effect (SCFAs mediated)</p> <p>Mannitol: osmotic effect (AQP3 mediated)</p>
PSYLLIUM	TAMARIND	ALMOND	SENNA and other anthraquinone herbs	SEA BUCKTHORN

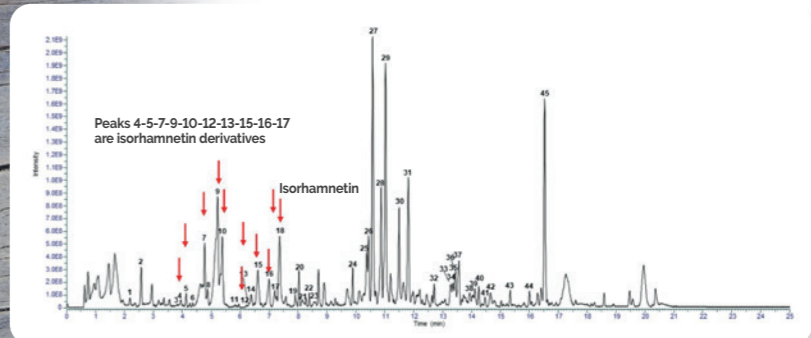
OLIVELax[®]

Hippophae rhamnoides L.
High quality dry extract standardized in isorhamnetin

The extract shows a **very rich phytocomplex**; 75 compounds have been detected by chromatographic technique (UHPLC-HRMS/MS) including:

- flavonoids,
- phenolic acids,
- proanthocyanidins,
- carotenoids,
- triterpenoids.

Sea buckthorn fruit also contains **mannitol**.



4 MAIN REASONS TO CHOOSE



quality
Official and validated analytical methods



efficacy
Preclinical and clinical studies



safety
DNA certified plant material to prevent adulterations



sustainability
Verified supply chain, from the field to the final extract




Constipation is a clinical condition characterized by several symptoms, including **hard or lumpy stools, abdominal discomfort, infrequent or difficult bowel movements, and a sensation of incomplete evacuation**; it affects approximately **9-20% of the global population, women and older adults** most frequently, with a significant impact on their **quality of life**.

Sea buckthorn fruits have been **traditionally used as a purgative** since the 16th century (1). Laxative and prokinetic effects of sea buckthorn have been demonstrated *in vivo* through partial activation of **muscarinic receptors**; on the other hand, the presence of **inhibitory phytochemicals** could **avoid the typical adverse effects** (abdominal cramps) of **parasympathomimetic drugs** (2).

REFERENCES: (1) Campanini E., Dizionario di fitoterapia e piante medicinali, II Ed. Tecniche Nuove, 2006
(2) Hanif M.; Mehmood M.H.; Ishrat G.; Abdullah A.; Sohail S.; Ahmed M.; Gilani A.H. Evaluation of prokinetic and laxative effects of Hippophae rhamnoides in rodents. Pak J Pharm Sci. 2019 Sep;32(5(Special)):2527-2533. PMID: 31894044.



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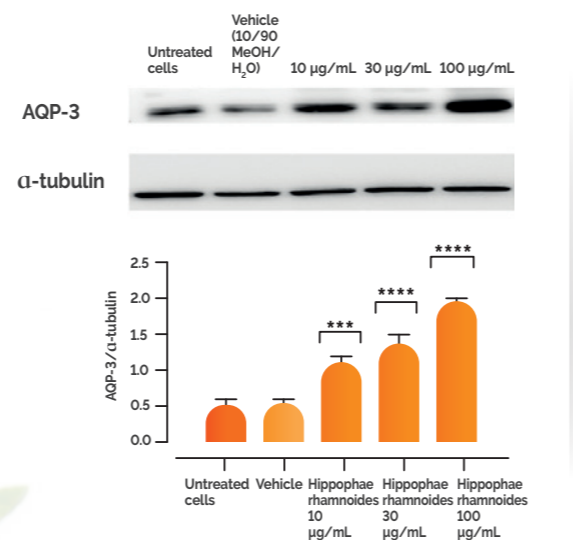


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PRECLINICAL STUDIES

OLIVELLAX® up-regulates the proteic expression of AQP-3

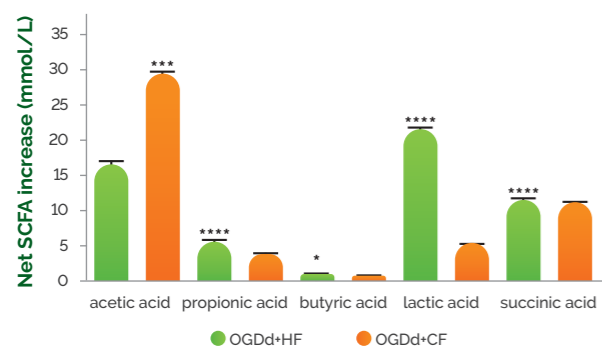
Aquaporin-3 (AQP-3) is a **water channel protein** predominantly expressed in the colon; modulating AQP-3 expression seems to relieve constipation by **enhancing stool hydration**. Olivellax® **significantly up-regulates AQP-3 expression compared to the vehicle control**, improving the passage of water into the gut lumen; this suggests an **osmotic laxative-like mechanism of action (1)**.



Effect of Olivellax® on AQP-3 expression. Colon-rectal adenocarcinoma epithelial (HT-29) cells were treated for 24 h with the extract or vehicle (10/90 methanol/water). ***p<0.001, ****p<0.0001

After fecal fermentation, the digested OLIVELLAX® improves SCFAs levels

It is well known that **altered gut microbiota (dysbiosis)** contribute to **constipation**; **SCFAs** (Short Chain Fatty Acids) are **produced by gut microbiome fermentation of dietary fiber**; a **key energy source** for **colon cells**, they play an important role in **gut functionality**; propionic and butyric acid affect intestinal motility by directly acting on **colonic smooth muscle**, stimulating the release of **serotonin (5-HT)**. **SCFAs** are known to be **significantly reduced** in **subjects with constipation**.



SCFAs produced by gut microbiota of healthy and constipated adults after fermentation of the digested Olivellax®. Data are presented as the means \pm SD. *p<0.05, **p<0.001, and ****p<0.0001

Fecal samples from **healthy subjects** (green bars) are richer in **lactic, succinic, propionic, and butyric acids**, while those from the **constipated group** (orange bars) show an increased concentration of **acetic acid**. This suggests that *H. rhamnoides* fruit extract (Olivellax®) **helps restore SCFAs levels** in constipated subjects whereas in healthy subjects the extract could maintain optimal SCFAs levels (1).

To validate these preliminary preclinical results and provide a more comprehensive understanding of the extract's mechanism of action, a **randomized, double-blind, placebo-controlled, parallel-arm clinical trial** was conducted in **subjects with chronic idiopathic constipation** diagnosed with **Rome IV criteria**

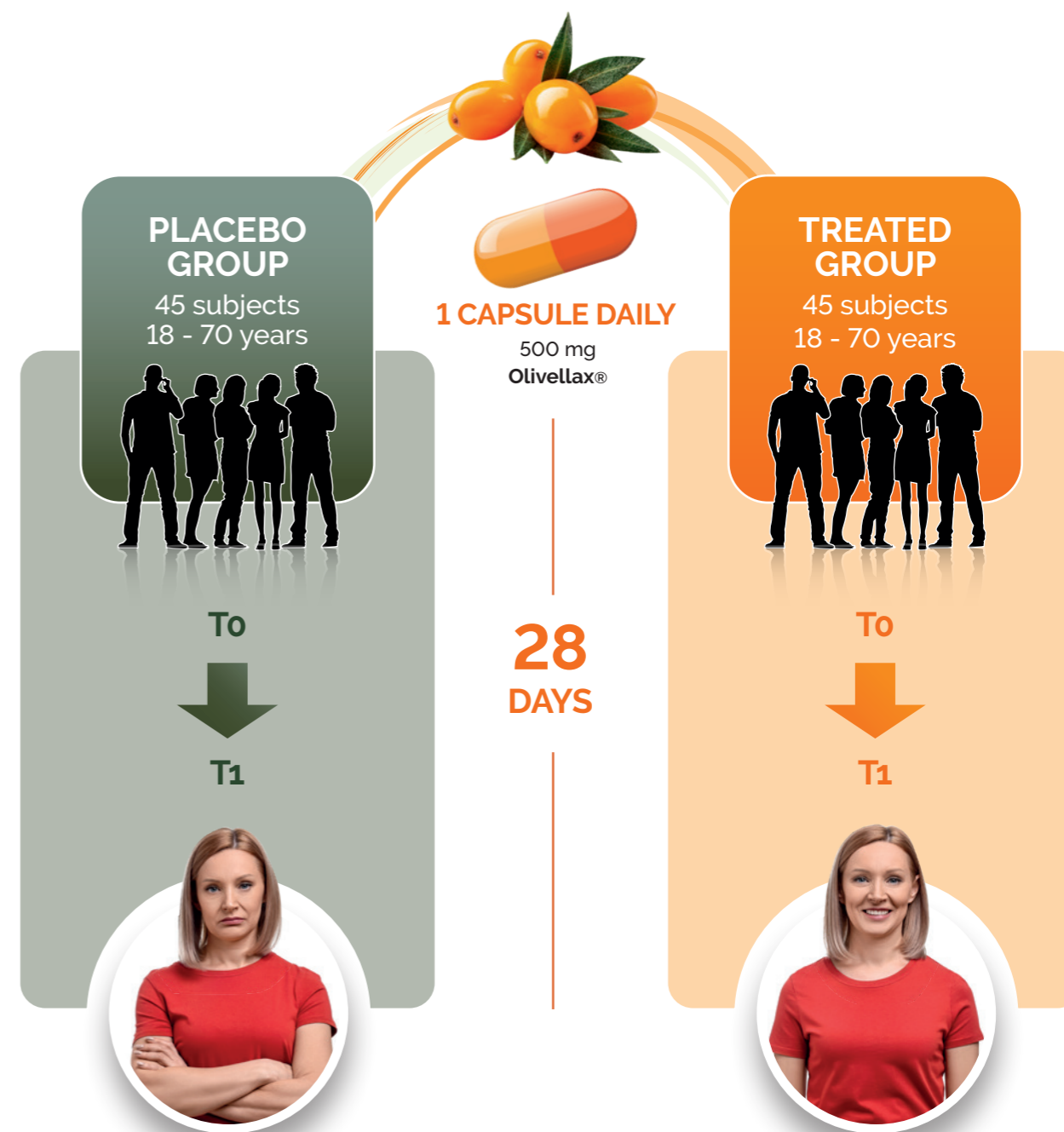
REFERENCES: (1) De Lellis, L.F.; Toledano-Marin, A.; Navarro-Moreno, M.; Caiazzo, E.; Madonna, G.; Delgado-Osorio, A.; Buccato, D.G.; Izzo, L.; Paolillo, A.; Di Minno, A.; et al. In Vitro Influence of a Chemically Characterized Hippophae rhamnoides L. Fruit Extract on Healthy and Constipated Human Gut Microbiota Functionality and Aquaporin-3 Expression. Foods 2025, 14, 3800. <https://doi.org/10.3390/foods14213800>.

CLINICAL STUDY

OLIVELLAX® was evaluated in a monocentric, randomized, double-blind, placebo-controlled clinical study

PRIMARY OUTCOME:
SCBMs
(number of evacuations/week)

SECONDARY OUTCOMES:
stool consistency (BSFS)
severity of constipation symptoms



RESULTS: Olivellax® increased the number of weekly spontaneous complete bowel movements (SCBMs) **by more than 40%**, **normalizing stool consistency**, measured according to the Bristol Scale (BSFS), and **improved bloating, abdominal pain and heaviness (2)**

(2) Morone, M.V.; Spadarella, G.; Di Minno, A.; Cordara, M.; Cerqua, A.; De Lellis, L.F.; Buccato, D.G.; Baldi, A.; Piccinocchi, R.; Ullah, H.; et al. Hippophae rhamnoides L. Fruit Extract Relieves Chronic Idiopathic Constipation and Improves Bowel Function: A Monocentric, Randomized, Double-Blind, Placebo-Controlled, Clinical Trial. Nutrients 2026, 18, 806. <https://doi.org/10.3390/nu18050806>.