

Rosa canina L.

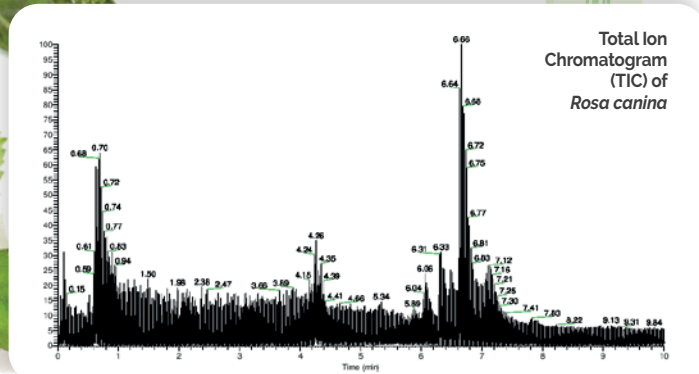
High-quality dry extract standardised in polyphenols

Rosa canina L., Dogrose (*Rosaceae*), is a **wild, thorny rose**, native to temperate Eurasia and northwest Africa; the fruits (hips), frequently consumed as jam or herbal tea, are a rich **source of vitamin C** and tannins. Rosehip is **traditionally used** as a **tonic, diuretic** and **antidiarrhoeic**.



ROSEHIP CONTAINS:

- **Phenolic acids** (syringic, ellagic, ferulic, and protocatechuic acids)
- **Tannins**
- **Flavonoids**
- **Organic acids**
- **Carotenoids and vitamins**
- **Galactolipids**



DOGROSE AS A POSSIBLE AID FOR MENOPAUSAL SYMPTOMS

The **reduction of estrogens** during **menopause**, in addition to causing disturbances such as **hot flashes**, **night sweats**, sleep disorders, mood swings, and **fatigue**, increases the **risk of serious diseases**, such as **metabolic syndrome** and **cardiovascular disease**.

Phytoestrogens, contained in many plants, may represent a **green alternative** to **hormone replacement therapy** (HRT). **Rosehip** revealed the presence of **compounds** (*ellagic, syringic and ferulic acids*) with **known phytoestrogenic properties**.



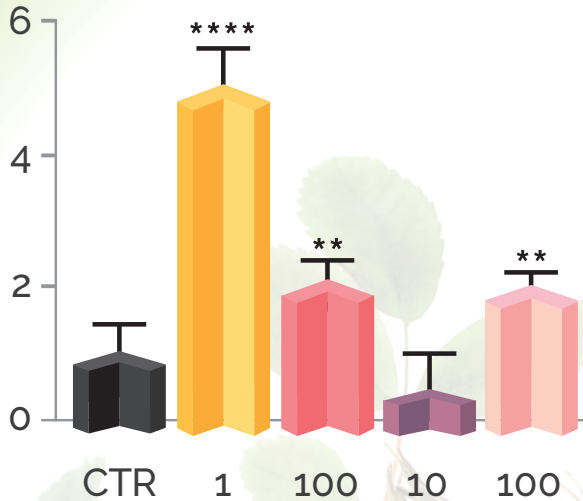
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PROESTROGENIC EFFECTS OF ROSEHIP



Effect of rosehip extract on the level of expression of PgR gene in MCF-7 breast cancer cells.

At a concentration of 100 µg/mL, *Rosa canina* extract significantly increased mRNA expression of the PgR gene, compared to the positive control (estradiol 1 nM), also in the case of pretreatment with the antagonist fulvestrant.

LEGEND

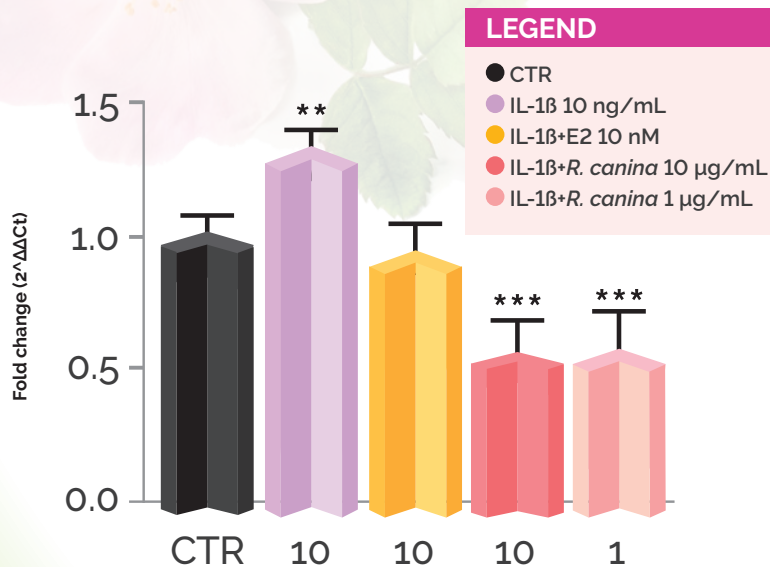
- CTR
- Estradiol 1 nM
- *R. canina* 100 µg/ml
- Fulvestrant 10 nM
- Fulv. + *R. canina* 100 µg/mL

ANTI-INFLAMMATORY ACTION OF ROSEHIP

Osteoarthritis (OA) is a **degenerative joint disease** characterized by the **progressive destruction of articular cartilage**, accompanied by **inflammation** and **bone remodeling**.

Chondrocytes are a cell type that plays a **crucial role in the maintenance and repair of articular cartilage**.

Examining the **expression of key genes** involved in the synthesis and degradation of the **extracellular matrix (ECM)** is regarded as a **proper approach** to investigate the **effects of plant extracts on the articular cartilage**. To **mimic the chronic inflammation typical of OA**, cells were stimulated with **interleukin-1β (IL-1β)**, a **pro-inflammatory cytokine**.



Effect of rosehip extract on SOX9 gene expression in primary human chondrocytes HC-a cells, pre-treated with IL-1 for 24 hours and for an additional 24 hours with E2 (10 nM) or the extract

SOX9 is a **critical gene** for **chondrocyte differentiation** and **cartilage development**, because it **promotes the transcription of chondrogenic markers**.

SOX9 expression is **up-regulated by IL-1β**, while **estradiol (E2)** (yellow bar), used as a positive control, **restores SOX9** level. *Rosa canina* extract significantly suppresses expression levels at concentrations 10 µg/mL and 1 µg/mL, suggesting that, **under inflammatory conditions, *Rosa canina* extract shows estrogenic activity and restores chondrogenic potential**.

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