



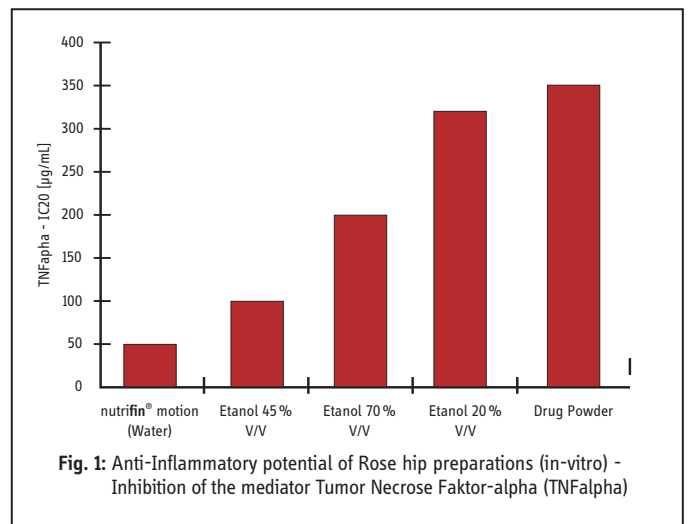
nutrifi[®] motion plus –
boosting natural joint health with
a new patented Rose hip extract



Joint health and Rose hip – the history

Rose hips have been eaten as jam or drunken as fruit tea for centuries. It has been one of the famous natural sources for Vitamin C, collected during the summer, eaten in the winter time. Therefore the separated Rose hip peels have always been regarded as everyday food.

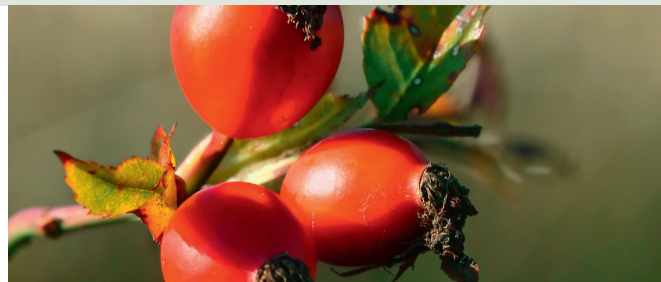
Several human studies with Rose hip powder were carried out over the last couple of years (Chrubasik et al. 2006). The powder showed pain reducing properties and could also reduce symptoms such as e.g. stiffness, or even the need for additional medication. However, the daily amount of approx. 5 g over a period of 12 weeks showed moderate beneficial effects, but also a low compliance and demonstrated the limits of a treatment with Rose hip powder. Herbal drug powders are usually not as stable and uniform as extracts, so the transfer of the active principle into a well soluble extract was investigated. Surprisingly it was found that neither Galactolipids nor other lipophilic substances were needed to produce an active extract.



nutrifin® motion plus – the active extract partner

nutrifin® motion is an extract from Rose hip peels cultivated within the Martin Bauer Group. It is produced during a multiply staged process starting with aqueous extraction followed by special purification with enzymatic pretreatment and ultra-filtration; finally a gentle spray drying process dries to an instant powder. This purified Rose hip extract differs from other Rose hip preparations due to its:

- ▶ strong anti-inflammatory effects on interleukines (IL1 β , IL6, TNFalpha)
- ▶ an analgetic profile (COX-2 inhibition)
- ▶ inhibitory properties against metalloproteinases (MMP1, MMP3)
- ▶ excellent water solubility (no lipophilic substances)



nutrifin® motion plus – the synergistic concept

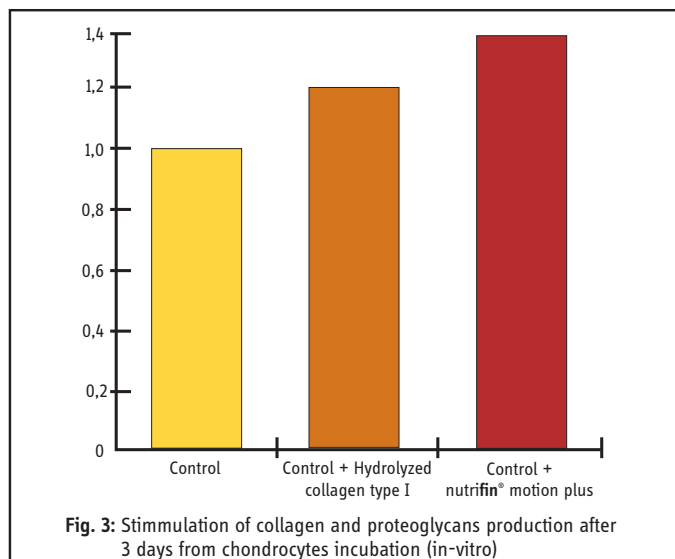
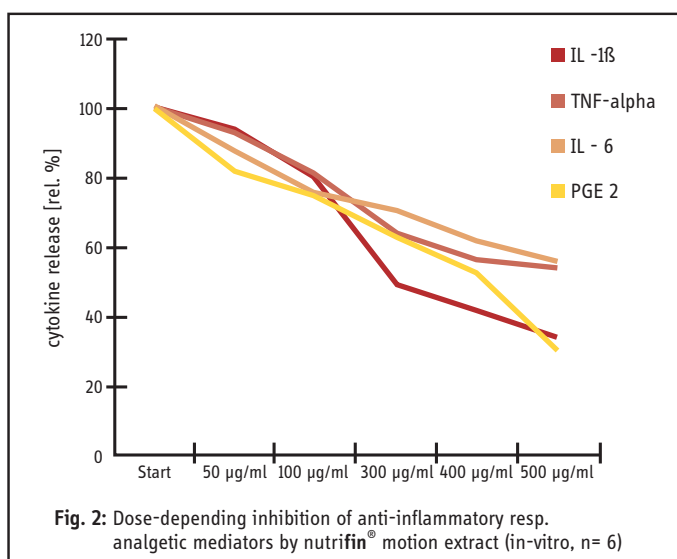
Combining the unique benefits of nutrifin® motion and a special type 1 hydrolyzed collagen matrix led to this new and innovative combination (patent application WO2009/080778).

nutrifin® motion plus – unique performance

- ▶ nutrifin® motion shows a dose dependant anti-inflammatory resp. analgetic action, which results from the inhibition of the release of inflammatory mediators, such as interleukin 1 β (IL-1 β), interleukin 6 (IL-6), the tumor necrosis factor alpha (TNF- α) and Prostaglandin E2 (PGE2).
- ▶ The special type 1 hydrolyzed collagen matrix used in nutrifin® motion plus stimulates the biosynthesis of the extra cellular matrix (ECM) of chondrocytes (type II collagen and proteoglycans) and thus enhances the production of cartilage tissue. This demonstrated effect is clinically proven.

The cartilage regenerative and protective effect could surprisingly be even improved upon when combined with the active extract nutrifin® motion. The regenerative effect could be increased by 40 % by use of an experimentally defined ratio of 10 parts hydrolyzed collagen to 1 part nutrifin® motion.

- ▶ Combining the two powerful modes of action – anti-inflammatory functionality and the stimulation of cartilage tissue production make nutrifin® motion plus unique and therefore the product of choice for the maintenance of joint health.





nutrifi[®]n motion plus – a ready-to-use bulk product

Inner composition	1 part aqueous Rose hip extract 10 parts hydrolyzed collagen type I
Other ingredients	Fructose, aroma, ascorbic acid, saccharin sodium
Characteristics	Light brown powder, soluble in cold water
Particle size	Fine, instant powder
Identity 1	TLC fingerprint on Rose hip extract
Identity 2	HPLC fingerprint on amino acids
Dosage per serving	8 g
Microbiological examination:	Acc. to food regulations
Legal status	Food
Nutritional values	Per 100 g
Energy	376 kcal (1598 kJ)
Carbohydrates	25.73
Proteins	67.72
Fat	0.24

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nutrifi[®]n motion plus – the first choice for the maintenance of joint health.

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