

Premium Millet & Rice Bran Lipid Complex
Advanced Hair, Nail & Skin Nutricosmetic Active



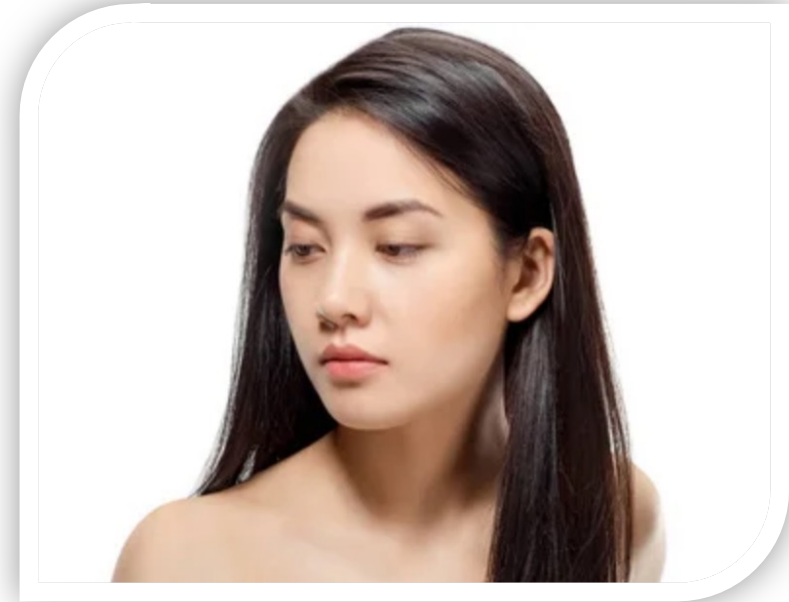
MILIACINOL™

NEW NORDIC Confidential Presentation

MILIACINOL™ « MARKET OPPORTUNITY for us and for You »

Beauty-from-Within: A Fast-Growing Category

- Global hair supplement market expanding rapidly
- Consumers demand:
 - Plant-based clinical actives
 - Organic sourcing of raw material
 - Clean-label extraction
 - Once-daily simplicity



MILIACINOL™ sits at the intersection of « Science »
and « Premium natural beauty ».

MILIACINOL™ « COMPOSITION & DIFFERENTIATION »



An advanced CO₂ Lipid Matrix complex → Millet + Rice Bran Synergy

Composition:

- 99.5% Supercritical CO₂ Extracts
 - French organic Millet Seed Oil
 - French organic Rice Bran Oil
 - 5:1 ratio (Millet : Rice Bran // 83% : 17%)
- 0.5% Natural Antioxidant and Natural Preservative
 - NUTRABIOL Organic (BTSA)
 - Rosemary CO₂ extract (FLAVEX)



Differentiators:

- | | |
|---------------------------|-------------------------|
| ✓ Solvent-free | ✓ Organic raw materials |
| ✓ Stabilized lipid system | ✓ European sourcing |

MILIACINOL™ « MILIACIN, a Bioactive Triterpenoid from Supercritical CO₂ Millet Extract »



➤ Main Active Molecule

- *Miliacin*, a naturally occurring triterpenoid in *Panicum miliaceum*.
- Obtained via supercritical CO₂ extraction, ensuring:
 - High purity
 - Solvent-free process
 - Optimal preservation of lipophilic bioactives
- MILIACINOL™ : Standardized to > 1,2% miliacin (up to 2%)



MILIACINOL™ « MILLET AND RICE SYNERGY FOR HAIR AND SKIN CARE »

The power of Miliacin, Gamma-Oryzanol, Ceramides and Phytosterols



➤ Secondary active molecules:

■ MILIACINOL™ :

- Standardized to > 0,2 % γ -Oryzanol
- Standardized to > 4 % Ceramides
- Standardized to > 1 % Phytosterols



MILIACINOL™ « MILIACIN, a Bioactive Triterpenoid from Supercritical CO₂ Millet Extract »



➤ Biological Mechanisms of Action

1. Stimulation of Keratinocyte Proliferation

- Miliacin significantly increases human keratinocyte metabolic activity and proliferation in vitro.
- Suggests stimulation of epidermal renewal and follicular keratinocyte activity.

Reference: Monnier V.M. et al. "Miliacin stimulates proliferation of normal human keratinocytes in vitro » International Journal of Cosmetic Science, 2006.

2. Modulation of Growth Factors & Extracellular Matrix

Ex vivo studies show that miliacin (associated with polar lipids):

- Increases IGF-1 secretion (key growth factor in hair follicle biology)
- Enhances Ki67 expression (cell proliferation marker)
- Improves dermal papilla extracellular matrix structure

Reference: Guichard A. et al. "Miliacin associated with polar lipids: Effect on growth factors secretion and extracellular matrix of the dermal papilla » Journal of Clinical & Experimental Dermatology Research, 2015.



MILIACINOL™ « Miliacin biological properties »



- Miliacin acts as a biological stimulator of keratinocyte and follicular activity
- Miliacin is a scientifically supported botanical active demonstrating:
 - ✓ Keratinocyte proliferation enhancement
 - ✓ Growth factor modulation
 - ✓ Clinically proven hair benefits
- Key Outcomes with MILIACINOL™ intake :
 - ✓ Significant reduction in telogen hair density
 - ✓ Improvement in hair growth phase balance
 - ✓ Enhanced hair brightness and scalp hydration
 - ✓ Visible improvement in overall hair quality



MILIACINOL™ « γ -Oryzanol – Key Bioactive of Rice Bran Oil for Hair Growth Support »



Rice Bran Oil active compounds:

→ γ -oryzanol, tocopherols, ceramides and various polyphenols such as phytic acid, ferulic acid, and chlorogenic acid.



RBO and γ -oryzanol support of Hair Growth Cycle based on scientific literature

- Promotion of hair shaft elongation
 - Increased follicular activity
 - Support of anagen phase
-
- **Cosmetic compliant Hair Care Biological Benefits**
 - ✓ Helps support the natural hair growth cycle
 - ✓ Protects the scalp environment from oxidative stress
 - ✓ Contributes to stronger, denser-looking hair
 - ✓ Supports follicular vitality



References:

- Choi et al. (2014). In Vivo Hair Growth-Promoting Effect of Rice Bran Extract Prepared by Supercritical Carbon Dioxide Fluid. Biological and Pharmaceutical Bulletin, 37(1), 44–53. doi:10.1248/bpb.b13-00528
- Muangsanguan et al. Comparison of In Vitro Hair Growth Promotion and Anti-Hair Loss Potential of Thai Rice By-Product from Oryza sativa L. cv. Buebang 3 CMU and Sanpatong. Plants (Basel). 2024 Nov 1;13(21):3079. doi: 10.3390/plants13213079. PMID: 39519997.
- Cicero AF, Gaddi A. Rice bran oil and gamma-oryzanol in the treatment of hyperlipoproteinaemias and other conditions. Phytother Res. 2001 Jun;15(4):277-89. doi: 10.1002/ptr.907. PMID: 11406848

MILIACINOL™ « POLAR LIPIDS & BIOAVAILABILITY ENHANCEMENT »



Natural Lipid-Assisted Delivery System

- Miliacin is lipophilic → absorption enhanced by polar lipids.
- Rice bran oil naturally contains: Ceramides, Phospholipids & Glycolipids
- Co-supercritical CO2 extraction of both Millet and Rice bran leads to the formation of Miliacin encapsulated with polar lipids

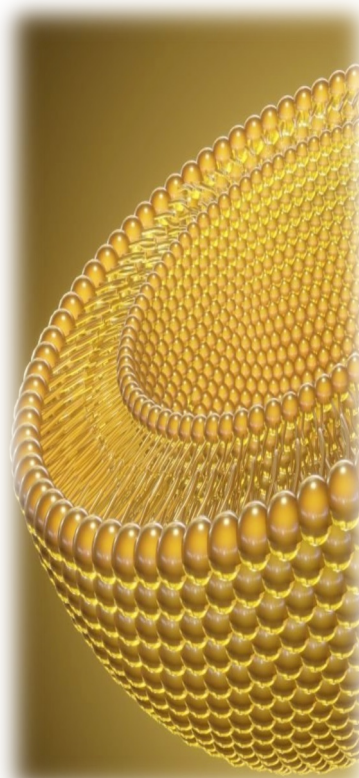
Scientific support:

- ❖ *Miliacin encapsulated with polar lipids improved follicular cell proliferation (Keophiphath 2020).*
- ❖ *Rice bran lipidome characterization confirms presence of functional polar lipids (Barros Santos et al., Mol Nutr Food Res, 2023;67:e2200111).*

Mechanism Concept:

Polar lipids form micellar/vesicular structures

→ enhanced intestinal absorption of lipophilic actives.



This explains why MILIACINOL™ is not just oil ... It is a delivery system.

MILIACINOL™ « RICE BRAN CERAMIDES & BARRIER SUPPORT »



Structural Lipid Support for Skin & Scalp

→ Rice bran polar lipids include ceramide-related compounds.

Functional relevance:

- Supports epidermal barrier integrity
- Enhances moisture retention
- Contributes to scalp barrier resilience



Positioning: Hair vitality + Skin barrier dual benefit.

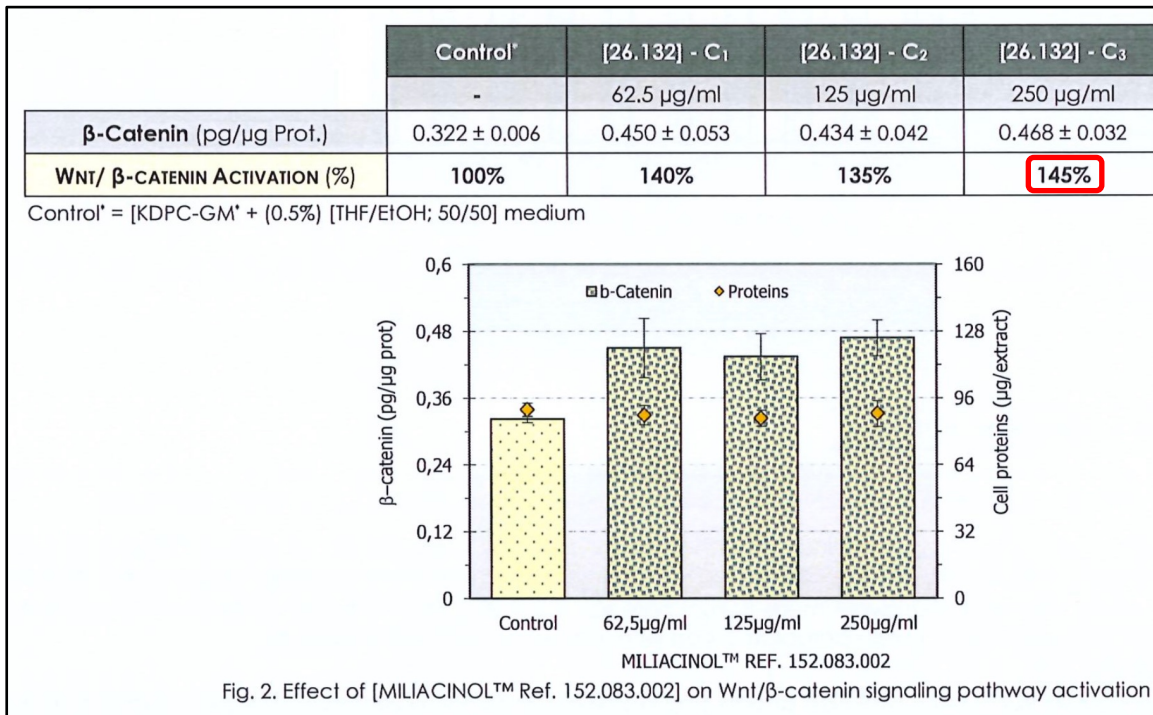
Scientific basis:

Barros Santos MC et al., Rice Bran Lipidome Identifies Novel Phospholipids, Glycolipids, and Oxylipins with Roles in Lipid Metabolism of Hypercholesterolemic Children. Mol. Nutr. Food Res. 2023, 67, 2200111.

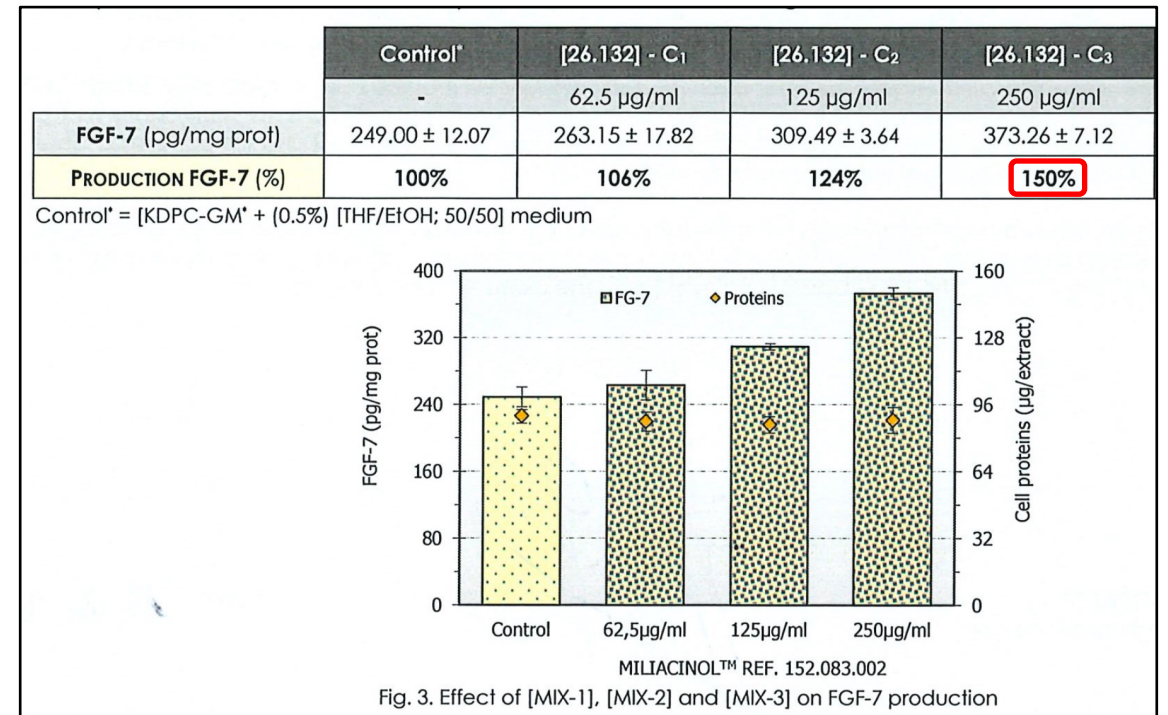
MILIACINOL™ « New Nordic 2026 *In vitro* study on human cells»

IN VITRO ASSESSMENT OF "HAIR GROWTH ACTIVATION" POTENTIAL OF MILIACINOL™ NUTRACEUTICAL INGREDIENT IN A [HAIR FOLLICLE CELLS / EPIDERMAL KERATINOCYTES] CO-CULTURE SYSTEM.

→ MODULATING EFFECTS ON FGF-7 PRODUCTION AND WNT/ β -CATENIN PATHWAY ACTIVATION



- MILIACINOL™ activate significantly Wnt/ β -catenin signaling pathway by enhancing β -catenin level by 45% at the highest tested concentration.

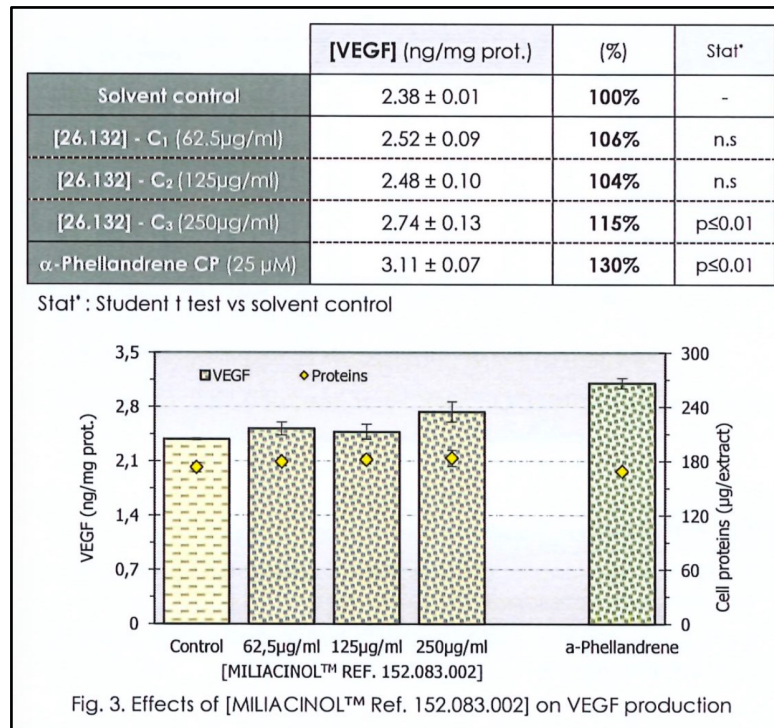


- MILIACINOL™ stimulate dose-dependently the production of FGF-7 by 50% at the highest tested concentration.

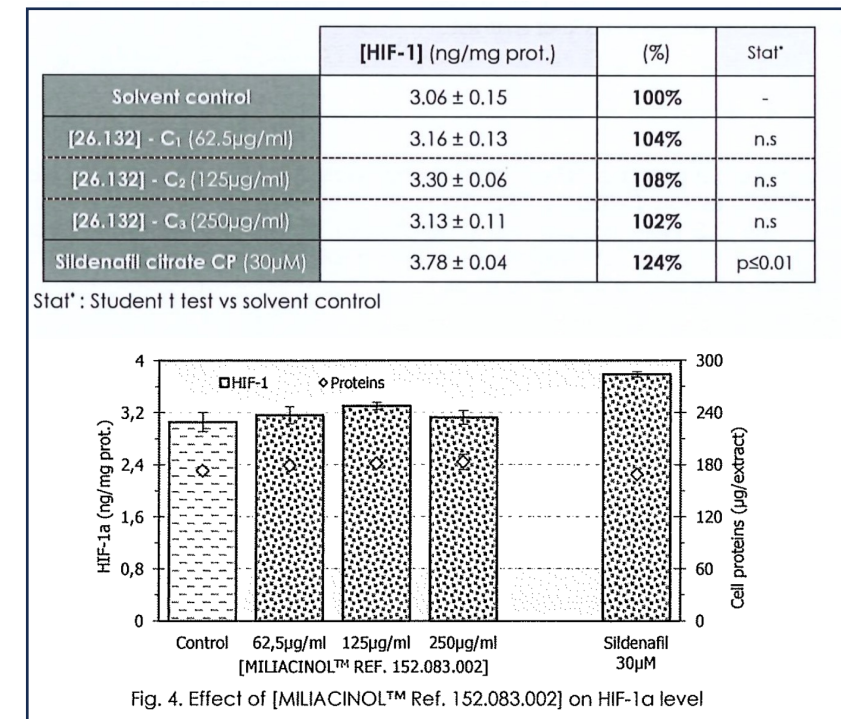
MILIACINOL™ « New Nordic 2026 *In vitro* study on human cells»

IN VITRO ASSESSMENT OF "HAIR VASCULARIZATION" POTENTIAL OF MILIACINOL™ NUTRACEUTICAL INGREDIENT ON HUMAN HAIR FOLLICLE DERMAL PAPILLA CELLS

→ MODULATING EFFECTS ON VEGF PRODUCTION AND HIF-1 α ACTIVATION



- MILIACINOL™ in the range of the tested concentrations increased in a dose-dependent manner VEGF production *in vitro* on human hair follicle dermal papilla HFDPC cells.



- MILIACINOL™ in the range of the tested concentrations just slightly promote HIF-1 α expression.

MILIACINOL™ « New Nordic 2026 *In vitro* study on human cells»

MILIACINOL™ NUTRACEUTICAL INGREDIENT *In Vitro* study conclusion:

- The *in vitro* data obtained for MILIACINOL demonstrate a strong biological activity on key signaling pathways involved in hair growth.
- The significant upregulation of the Wnt/ β -catenin pathway (+45%) is particularly noteworthy, as this pathway plays a central role in hair follicle activation, stem cell proliferation, and the initiation of the anagen (growth) phase.
- Additionally, the marked increase in FGF-7 (Keratinocyte Growth Factor) production (+50%) further supports the potential of MILIACINOL to stimulate keratinocyte proliferation and differentiation, which are essential processes for robust hair shaft formation and follicular health.



STRONG HAIR

Healthy follicles produce strong, thick hair.



HAIR GROWTH CYCLE

Healthy hair grows longer and stronger in the anagen (growth) phase.



SHINE & VITALITY

Well-nourished hair is shiny, smooth and full of life.

MILIACINOL™ « New Nordic 2026 *In vitro* study on human cells»

MILIACINOL™ NUTRACEUTICAL INGREDIENT *In Vitro* study conclusion:

- The observed elevation in VEGF (+15%) and HIF-1 α (+8%) suggests a complementary mechanism involving improved microcirculation and enhanced cellular response to hypoxia. These factors are known to promote angiogenesis around the hair follicle, thereby optimizing nutrient and oxygen supply—conditions that are favorable for sustained hair growth.
- Importantly, the moderate amplitude of this stimulation may represent a physiologically balanced response. Excessive upregulation of VEGF and HIF-1 α signaling has been associated in the literature with abnormal angiogenic activity, increased vascular permeability, oxidative stress, and pro-inflammatory processes, which may potentially become detrimental to follicular homeostasis. In this context, the moderate activation observed with MILIACINOL appears particularly relevant for supporting a controlled and balanced follicular microenvironment.



SCALP HEALTH

A balanced scalp is the foundation of beautiful hair.



GOOD CIRCULATION

Optimal blood flow delivers oxygen and nutrients to hair roots.



NUTRITION

Vitamins, minerals and proteins support hair growth and strength.

MILIACINOL™ « New Nordic 2026 *In vitro* study on human cells»

MILIACINOL™ NUTRACEUTICAL INGREDIENT *In Vitro* study conclusion:

- ❑ Taken together, these results indicate that MILIACINOL acts through multiple synergistic pathways:

- Activation of follicular stem cells,
- Stimulation of keratinocyte activity,
- Improvement of the perifollicular microenvironment.

➔ This multi-target mechanism strongly supports its potential efficacy as a hair growth–promoting active ingredient.

- ❑ Regarding the already additionnal observed incredible improvements in nail growth and quality through its use by several independent clients, a link can indeed easily be considered. Both hair and nails are composed primarily of keratin and rely on similar biological processes, including keratinocyte proliferation, differentiation, and adequate vascular support. While this conclusions would require targeted studies for confirmation, the observed effects are biologically consistent and support a broader activity of MILIACINOL on both hairs and nails.



MILIACINOL™ « DOSAGE & APPLICATION »



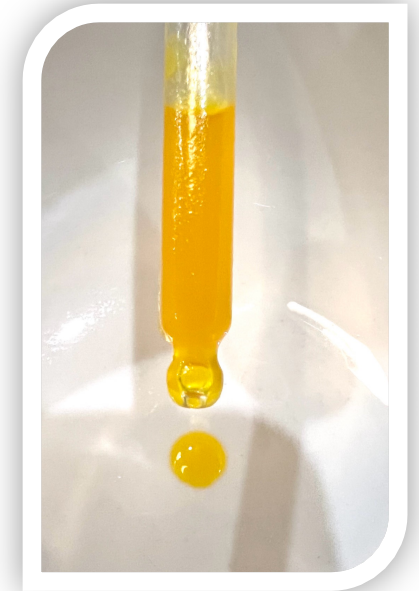
Current Format

- 300mg once daily
- Softgel capsule
- Lipid-protected delivery



Recommended dosage :

- For Hair care with oral supplementation: from 100 to 600mg per day, in one or 2 intakes per day _ Optimum $\geq$ 300mg
- For Hair oil: from 1 to 4%
- For a Facial cream: from 0,4 to 2%
- For a Body lotion: from 0,5 to 3%



MILIACINOL™ « Delivery packaging and future application prospects »

➤ Available delivery packaging formats:

✓ 28kg in 32L Aluminium bottle*



✓ 1kg in 1,25L Aluminium bottle



➔ *Portfolio Scalability possibilities.*

➤ Future Expansion:

- ✓ Topical scalp lotion
- ✓ Hair serum
- ✓ Dual oral + topical system
- ✓ Nail and Skin care



*TOURNAIRE French Brand Aluminium bottle, one of the most qualitative and secured on the market.

MILIACINOL™ « COMPETITIVE POSITIONING »



- Premium Clinical Botanical Active
- May be combined with biotin, zinc or other ingredients to benefit hair health claims.
- MILIACINOL™ *in vitro* trial on Hair growth activation & Hair vascularization with a french clinic just concluded with amazing results.
 - Final reports available on request.
- Benefit of New Nordic Trademark:



MILIACINOL™

*Looking forward to a
potential and fruitful
collaboration, we stay at
your disposal anytime to
assist with pleasure.
Kind regards, New
Nordic team.*



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