



NATURAL ACHE RELIEF

 **indena**[®]
INDUSTRIA
DERIVATI
NATURALI

HEALTH - FOOD

MITIDOL[®]
ZINGIBER AND ACMELLA
STANDARDIZED EXTRACTS COMBINATION

Please note this documentation is available for various countries all over the world and hence it may contain statements or product classification not applicable to your country. The claims made are in reference to ingredients only, hence they do not refer to finished products and they may not comply with Regulation EC n. 1924/2006. The marketer of any finished product containing any ingredient is responsible for assuring that the destination of the product and the claims made for the finished product are lawful and comply with all applicable laws and regulations of the country or countries in which the product is to be sold.

WHAT IS MITIDOL®?

MITIDOL® is a formulation of two standardized botanical extracts, namely *Zingiber officinale* and *Acmella oleracea* effective as natural adjuvant in ache management.

SPECIFICATIONS

MITIDOL® is standardized to contain:

9.6-11.8% *Zingiber officinale* CO₂ extract
(2.4-3.9% total gingerols and shogaols by HPLC)

1.9-2.4% *Acmella oleracea* st. extract
(0.30-0.60% spilanthol by HPLC)

SCIENTIFIC EVIDENCE

MITIDOL® is supported by a human efficacy study, and two *in vitro* mechanistic studies.

SUGGESTED USE AND DOSE

MITIDOL® is a yellowish fine powder with good technological properties (e.g. density, flowability), easy to formulate and mainly suitable for capsules and tablets.

Suggested dose: **350 mg twice a day**

References

- ¹ International patent application WO2018/108549
- ² Dugasani, Swarnalatha, et al. Journal of ethnopharmacology 127.2 (2010): 515-520.
- ³ Dedov, Vadim N., et al. British journal of pharmacology 137.6 (2002): 793-798.
- ⁴ Grzanna et al. Journal of medicinal food 4.01 (2005): 125-132.
- ⁵ Kiuchi, Fumiyuki, et al. Chemical and Pharmaceutical Bulletin 40.2 (1992): 387-391.
- ⁶ Tjendraputra, Effie, et al. Bioorganic chemistry 29.3 (2001): 156-163.
- ⁷ Dubey, Suchita, et al. Advances in pharmacological sciences 2013 (2013).
- ⁸ Rondanelli, Mariangela, et al. FitoTerapia (2019): 104419.
- ⁹ Wu L-C et al. J Agric Food Chem. 2008;56(7):2341-2349
- ¹⁰ Bakondi, Edina, et al. International journal of integrative sciences 20.17 (2019): 4308.
- ¹¹ Rondanelli M., et al. Pain Medicine (2019)
- ¹² Indena manuscript in preparation
- ¹³ Indena manuscript in preparation

WHAT MAKES MITIDOL® UNIQUE?

MITIDOL® is a proprietary¹ association of two standardized botanical extracts able to support ache management.

The innovative composition exploits the properties of two traditionally used plants:

- ***Zingiber officinale***
 - gingerols and shogaols are the main extract components;
 - traditionally used, the plant has a vast scientific literature, with studies documenting their ability to modulate many enzymes involved in the healthy inflammatory response;²⁻⁶
- ***Acmella oleracea***
 - Indena proprietary organic plantations in Sardinia;
 - fully sustainable source of alkylamides;
 - compliant to main worldwide regulations;
 - the main component, ***spilanthol***, is effective at low dosages and in literature has shown a plethora of beneficial effects.⁷⁻¹⁰

A one-month human efficacy study on joint challenges on **MITIDOL®** showed:¹¹

- optimization of knee functionality confirmed in two different tests: Lhysolm and Womac scale
- effective on knee ache intensity already after 10 days of supplementation
- improvement in Quality of Life score (SF-36 questionnaire)
- improvement in physical activity
- healthy oxidative response control, possibly causing inflammation:
 - 12.7% Erythrocyte Sedimentation Rate
 - 36.4% high sensitivity CRP

Two mechanistic studies suggested that, **MITIDOL®** could selectively act on cannabinoid CB2 receptors compared to competitors like *Piper nigrum*, *Commiphora mhirra* and palmitoylethanolamide, and as a possible FAAH inhibitor.^{12,13}

indena.com

