

affron[®] 
improve your mood



AUTHENTIC SAFFRON EXTRACT

PHARM  CTIVE
BIOTECH PRODUCTS
a natural difference



safety and multiple galenic possibilities

Saffron with A+



Unmatched product in the market

KING LABEL PHARMACTIVE

Exhaustive control of our products from the raw material cultivation and harvesting in our saffron fields, technological parameters during extraction process in our factory and quality assurance throughout the whole process. Pharmactive guarantees security, exclusivity, protection, transparency, scientific support and confidence.

affron® is a new generation saffron extract standardized to *Lepticrosalides*® (Lopresti & Drummond, 2016) which are analyzed by HPLC (High Performance Liquid Chromatography).

Three clinical studies support dosage/ effectiveness, safety and multiple galenic possibilities of *affron*®.

[dosage >>> effectiveness]

The shown **benefits of affron[®]** endorsed by the clinicals are:

- 1 Mood
- 2 Stress / Anxiety / Sleep
- 3 Cognition
- 4 Vigor / Vitality

3 CLINICAL STUDIES

affron[®] a novel saffron extract (*Crocus sativus* L.) improves mood and sleep quality in healthy adults over 4 weeks in a double-blind, parallel, randomized, placebo controlled clinical trial. First clinical study performed with a commercial saffron extract in healthy people.

The participants, self-reporting low mood but not diagnosed with depression, were included and randomly assigned to groups receiving the saffron extract (*affron[®]*: 22 or 28 mg/day), or placebo for 4 weeks.

affron[®], a natural extract from saffron (*Crocus sativus* L.) significantly improves mood

without side effects in one month treatment:

- Tension, depression, anger, confusion and fatigue subscales analyzed according to the Profile of Mood States Test (POMS) diminished in the 28 mg/day treated group, whereas vigor-vitality subscale increased within same group.
- The 28 mg/day treated group during one month showed a decrease in anxiety, stress and depression according to Depression, Anxiety and Stress Scale (DASS).
- The Pittsburgh Sleep Quality Index (PSQI) was improved in the 28 mg/day treated compared to placebo group.

» effectiveness



affron does not interfere with other
natural extracts, vitamins or minerals

A close-up photograph of a large pile of purple crocus petals. In the upper left and lower left corners, there are two shallow, light-colored bowls filled with bright red saffron threads. The petals are densely packed and show some yellow stamens. A semi-transparent purple rectangular box is overlaid on the lower half of the image, containing white text.

Genetically certified *Crocus sativus* L.

»» First clinical study with dose-response effectiveness

Statistical analysis indicated a significant decrease of negative mood and symptoms related to stress and anxiety at 28 mg/day dose. Sleep quality also showed an improvement at 28 mg/day dose.

The mood improvement and anxiolytic effects of *affron*[®] were consistent in both sexes, and achieved without any adverse effects on any performance or safety parameters.

While we studied a population with self-reported low mood but not diagnosed with depression, our results bring new potential knowledge to the clinical literature, showing that this new standardized saffron extract exerts remarkably consistent positive effects across the POMS-TMD, PANAS and DASS scales.

Furthermore, our dosing schedule demonstrated a clear dose-dependent relationship across all scales, making our study the first to identify a clinically appropriate and empirically justified dosage scheme.

Overall, the results showed in this study demonstrated the effectiveness of *affron*[®].

This natural extract from saffron (*Crocus sativus* L.), improving mood disorders and anxiety in healthy participants with low mood (FIGURE 1), opening new horizons in promising natural therapies.

affron[®] a novel saffron extract (*Crocus sativus* L.) improves mood and sleep quality in healthy adults over 4 weeks in a double-blind, parallel, randomized, placebo-controlled clinical trial.

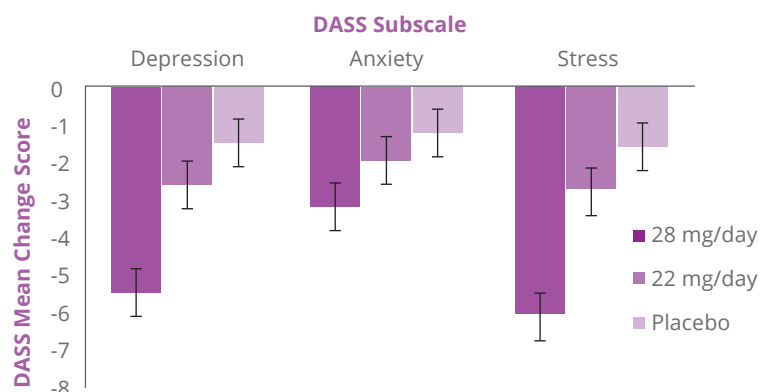


Figure 1. DASS mean change scores, subscales depression, anxiety and stress, after 4 weeks of treatment with 22 or 28 mg/day *affron*[®] or placebo

Efficacy of curcumin, and a saffron/
curcumin combination for the
treatment of major depression:
A randomised, double-blind,
placebo-controlled study. Lopresti
& Drummond, 2016. Journal of
Affective Disorders, 207, Pages
188–196.

**affron® is totally safe (TABLE 1) and
can be used with other natural
extracts.**

[>>> safety]

Frequency of reported adverse events

	HDC	LDC	LDC+S	PLACEBO
Diarrhoea/loose bowels	7	2	2	1
Headache/migraines	2	3	0	1
Hot flush	1	0	0	0
Stomach ache/digestive problems	2	0	0	2
Spicy aftertaste	5	4	2	1
Constipation	0	1	0	1
Nausea	0	1	1	1
Vivid dreams	0	0	1	3
Dizziness	0	0	2	3
Dry eyes	0	0	0	1
Weight gain/increased appetite	2	0	2	2
Total adverse events	19	11	10	16

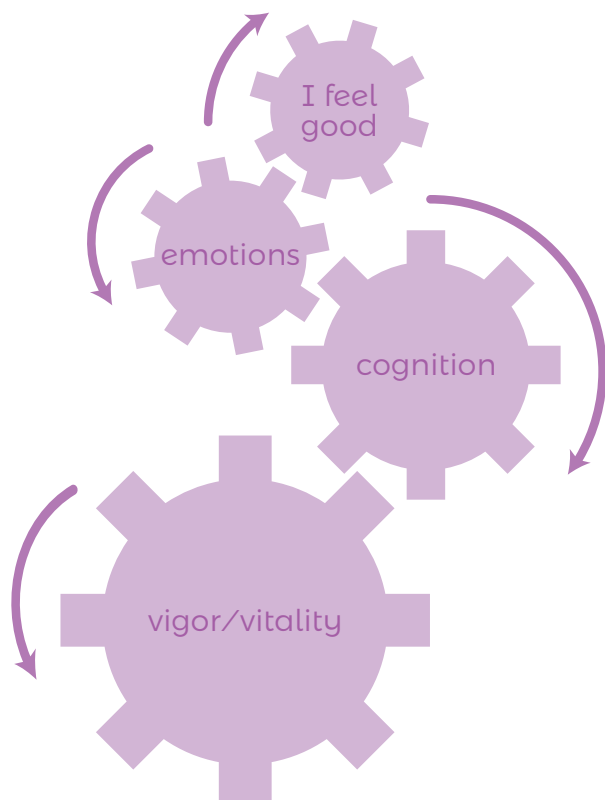
LDC= low-dose curcumin; HDC= high-dose curcumin; LDC+S=low-dose curcumin plus saffron

Table 1. Frequency of reported adverse events of curcumin and *affron*®curcumin mixture (Lopresti & Drummond, 2016)

AORA DIA, a new complex that improves mood and cognition: a randomized, double-blind, placebo-controlled study. (Publication pending).

affron[®] does not interfere with other natural extracts, vitamins or minerals

[>>> cognition]



PATENTED SAFFRON EXTRACT (ES2573542)

Use of a new saffron extract for the prevention of mood disorders related to depression.

GENETICALLY CERTIFIED 100% *Crocus sativus* L.

affron® is **100% *Crocus sativus* L.**, specie from the *Crocus* genus of the Iridaceae family DNA certified.

Technical Procedure of the Genetic Study:

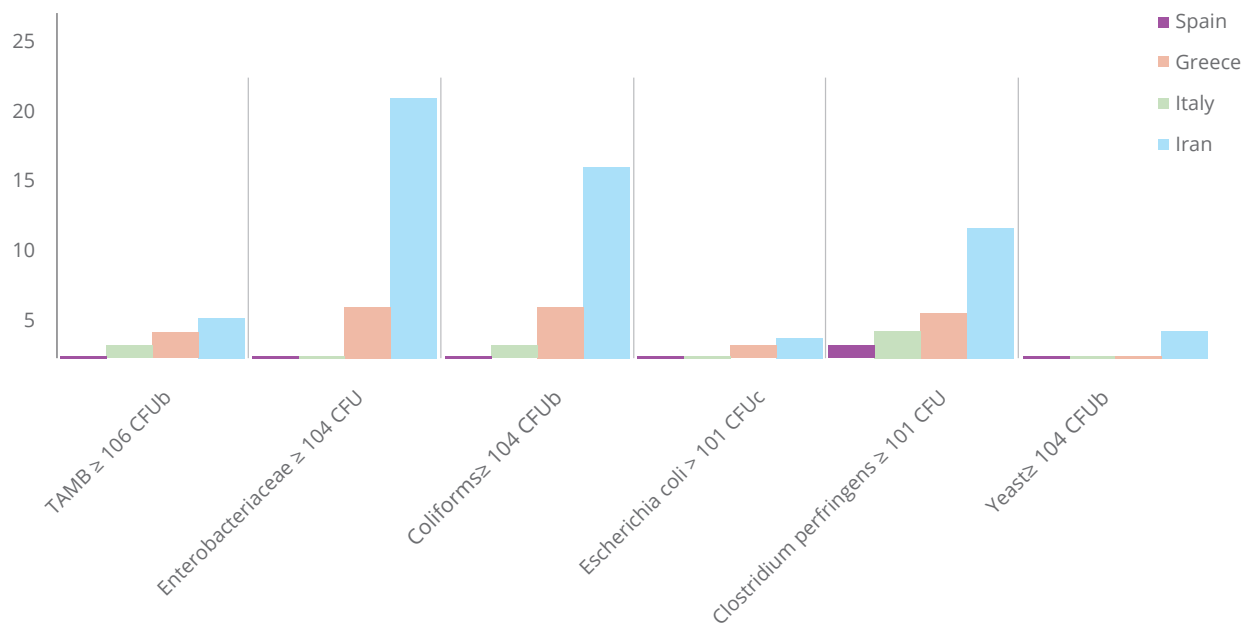
- 1 Isolation of Deoxyribonucleic acid (DNA).
- 2 Polymerase Chain Reaction (PCR).
- 3 DNA sequencing.
- 4 Analysis of the results with the National Center for Biotechnology Information (NCBI) database.
- 5 DNA certification performed with an accredited European Laboratory.



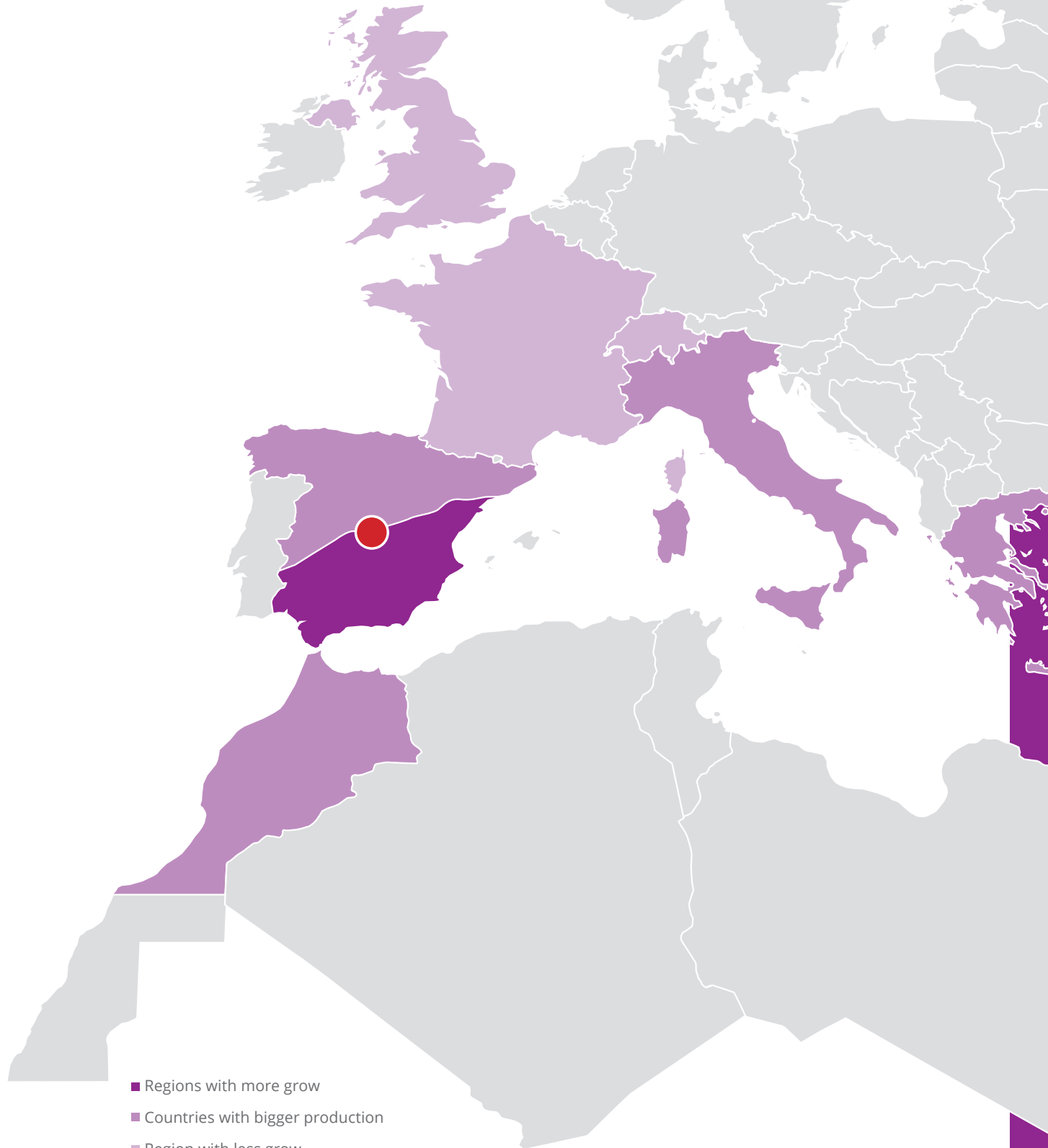
100% *Crocus sativus* L.

100% VERTICALLY INTEGRATED PRODUCTION

Vertically Integrated Process certified
by BUREAU VERITAS



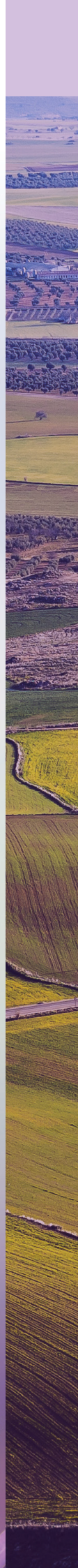
Cosano et al., 2009. *Journal of Food Protection*, 72, 2217–2220



- Regions with more grow
- Countries with bigger production
- Region with less grow
- Main markets current

Source: Wikipedia

100% Spanish saffron





Saffron fields in Castilla-La Mancha (Spain)

PROPIETARY EXTRACTION PROCESS

Pharmactive controls the main technological parameters involved in the quality of *affron*[®] throughout production in our factory (Madrid, Spain)

[evaporator » extractor » collector]



OBJECTIVE METHOD OF ANALYSIS OF SAFFRON EXTRACT BY HPLC

ISO 3632 method of analysis is an spectrophotometric tool fast and easy, normally employed to categorize the quality of the saffron stigmas based on the concentration of Picrocrocin, Safranal and Crocin. This analytical method is also widely employed to analyze saffron extracts, but there are several drawbacks, chiefly because it is not selective, objective and accurate as several authors showed on before (Tarantilis et al., 1994, 1995; Orfanou and Tsimidou, 1996). In fact, the wavelengths of 257 and 330 nm, which are respectively determined by Picrocrocin and Safranal, according to ISO3632, show interference from other compounds, mainly Crocin isomers (Gonzalo et al., 2001), which are majority in the saffron and that produce an overestimated value of the content of Safranal as can be observed in the Following FIGURE 2.

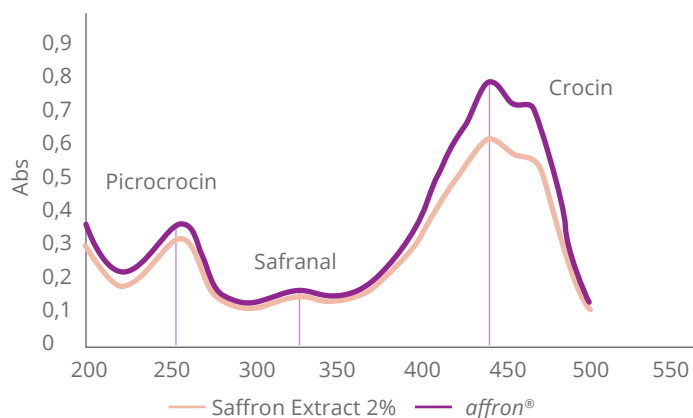
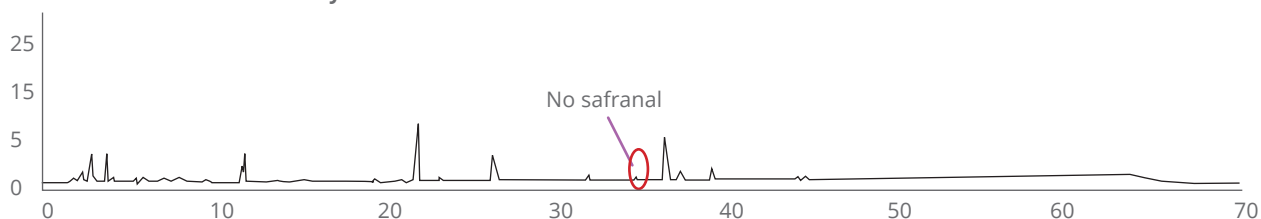
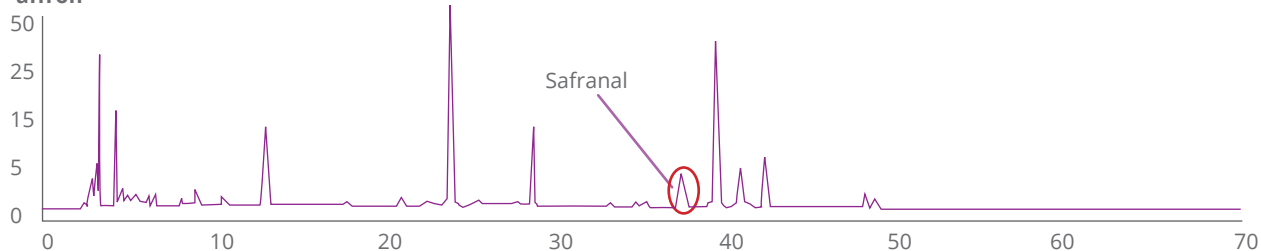


Figure 2. Comparison of ISO 3632 and HPLC methods of analysis with a commercial sample of saffron extract standardized to 2% safranal and *affron®* 3.5% *Lepticosalides®*

Saffron Extract 2% safranal by ISO 3632



affron®



LEPTICROSALIDES[®], MAIN BIOACTIVE COMPONENTS IN *affron[®]*

Lepticrosalides[®] are the main bioactive compounds present in *affron[®]*, which is a natural extract from saffron stigmas (*Crocus sativus* L).

Lepticrosalides[®] improve good mood in healthy people who show stress, anxiety or depression, clinically tested on 128 people who were taking 28 mg/day of *affron[®]* extract for at least one month treatment. The clinical study was reviewed and approved by the Ethics Committee for Clinical Research Queensland and collected

in the "Australian New Zealand Clinical Trials Registry" (approval number HREC2014002) protected under current legislation, the NHMRC (National Health and Medical Research Council, Australia).

Furthermore, *Lepticrosalides[®]* are the primary components responsible for the organoleptic properties of saffron, chiefly aroma and color. The minimum amount of these bioactive compounds to have a positive effect on mood must be more than 35 mg of *Lepticrosalides[®]* per gram of *affron[®]* (> 3.5%, dry basis) analyzed by high-performance liquid chromatography.

Pharmactive's *affron[®]*

- 100% spanish product.
- Premium quality saffron (*Crocus sativus* L.) stigmas.
- Bioactive components analyzed by HPLC (>3.5 % *Lepticrosalides[®]*).
- Shelf life: 3 years.
- Non-irradiated.
- Non GMO.
- Multiple galenic possibilities.
- Safe up to 5g/day.

**[dosage
28 mg/day >>> effectiveness]**





www.pharmactive.eu

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