



vitaflavan®

from grape seed to health



DRT
the Best of Nature



grape seed extract

KEY QUALITIES OF VITAFLAVAN®

- High level in low molecular procyanidins
 - mainly dimers, trimers and tetramers -
- Absence of high polymeric tannins
- Safe extract fully tested
- Easily formulated in food supplements and beverages

KEY HEALTH BENEFITS

- Antioxidant
- Sun protection
- Slimming – weight management

POLYPHENOLS

A MULTITUDE OF COMPOUNDS

Polyphenols are a wide range of biological molecules which play a protective role in plants. They are one of the major type of secondary metabolites, water soluble or not, which may be classified into four main families : phenolic acids, flavonoids, tannins and lignins.

OLIGOMERIC PROCYANIDINS, OPC

Oligomeric ProCyanidins, more commonly known as OPC, are phenolic compounds that belong to the flavonoid family. OPC are oligomers of catechin and epicatechin. The OPC that offer the beneficial activities described by Professor Masquelier are primarily the dimers, trimers, tetramers and pentamers. **They are called oligomers.** Compounds formed from more than five sub-unit repetitions are called polymers which have a much higher molecular weight. They are not easily absorbed, and consequently offer very weak biological action.



VITAFLAVAN® DESCRIPTION

vitaflavan® is a fine powder extracted from French white grape seeds, grown in the South West region.

**Biological activity is linked
to the type of procyanidin**

Not all procyanidins have a biological effect.

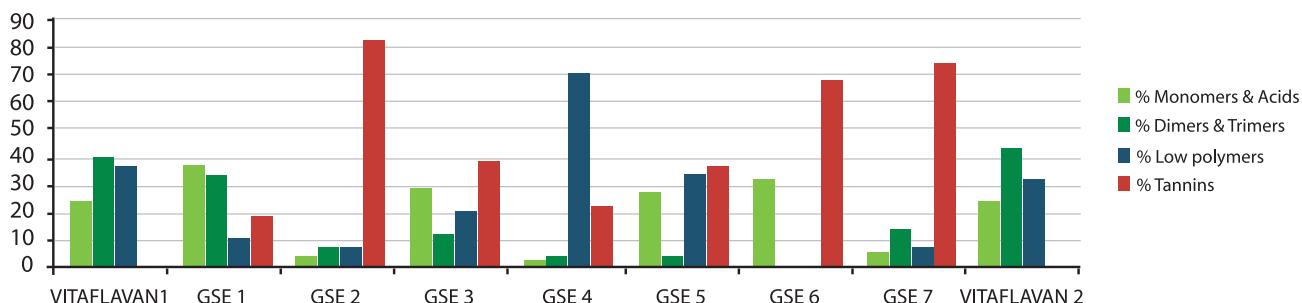
The OPCs' intestinal absorption and thus their biological activity are based on their molecular weight, the high weight molecules being unabsorbed.

vitaflavan® presents an optimal composition in oligomeric procyanidins, which guarantees bioavailability and effectiveness of the extract.

Compared to competition, only vitaflavan® has a high content in short oligomers of catechin and epicatechin, and is characterised by an absence of tannins. See figure 1 below.

Figure 1: vitaflavan® versus competition

vitaflavan® was compared to seven grape seed extracts (GSE: grape seed extract)



HEALTH BENEFITS

ANTIOXIDANT ACTIVITY

vitaflavan® has been tested *in vitro* and *in vivo* by different methods and laboratories.

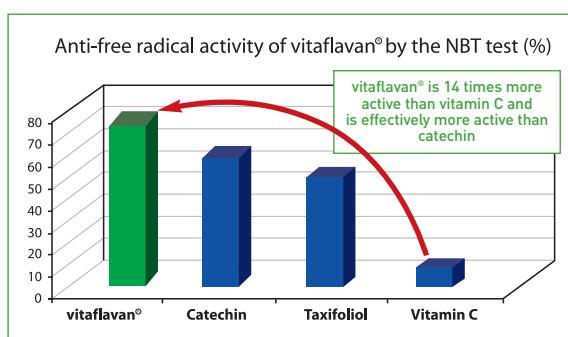
IN VITRO TESTING

ANTI-OXIDANT AND ANTI-FREE RADICALS SCAVENGING EFFECTS

Measurement of anti-free radical activity of vitaflavan® by the NBT test (DRT Research Lab. 1997)

In vitro, the anti-free radical activity is easily measured by the NBT test. It is based on the reduction of tetrazolium Nitroblue (NBT) into Formazan Blue (BF) by the radical superoxide anion.

This reaction is measured by colorimetry at 560 nm. The presence of free radical scavengers will inhibit the reaction, and the percentage of inhibition allows to appreciate the anti-free radical efficiency.



Different materials have been tested:

vitaflavan®: grape seed extract

Taxifoliol: compound of pine bark extract

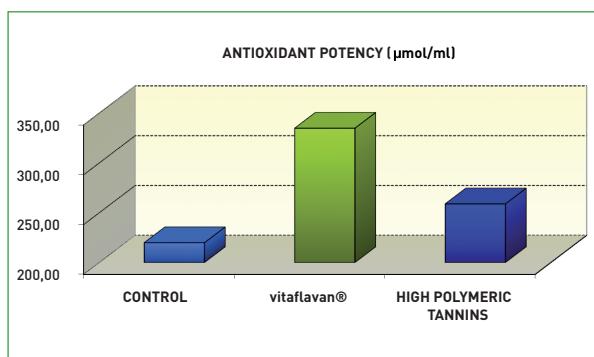
Catechin: basic monomer

Vitamin C: as reference

IN VIVO TESTING

Postprandial effect of vitaflavan® intake on plasma antioxidant activity. (Inra Theix – France 1998)

Antioxidant potency of plasma has been measured 2 hours after ingestion on 3 groups:



Group C: Control without any antioxidant material

Group VS: Supplemented with 500 mg of vitaflavan® in 1 dose

Group HPTS: Supplemented with 500 mg of High Polymeric Tannins in 1 dose

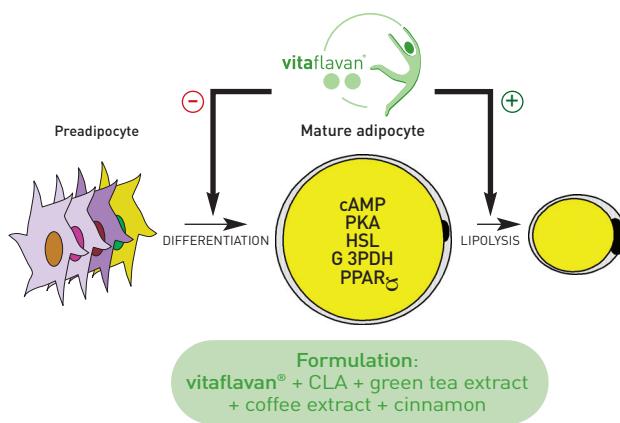
This experiment shows the antifree radical activity of vitaflavan® *in vivo* and demonstrates the ineffectiveness of the highly polymerised molecules.

SLIMMING – WEIGHT MANAGEMENT

vitaflavan® plays a significant role in weight management by reducing the energy intake to overweight dietary unrestrained subjects.

Furthermore, vitaflavan® plays a role in the control of the weight through the decrease of the adipocytes differentiation and the activation of the lipolyse with short and long term via actors such as to cAMP, PKA, HSL, G 3PDH, PPAR γ .

PKA: Protein Kinase A, HSL: Hormon sensitive lipase
G 3PDH: Glycerol-3-phosphate dehydrogenase, PPAR γ : Peroxisome Proliferator Activated Receptor





VITAFLAVAN® - CHARACTERISTICS	Composition (%) (GPC)
• TOTAL POLYPHENOL CONTENT (%)	> 96
• PROCYANIDIN CONTENT (%) (GPC)	> 75
• PROCYANIDIN CONTENT (%) (PORTER)	68
• MONOMERS	22
• DIMERS	> 19
• UPPER OLIGOMERS	56

USES

BIOLOGICAL ACTIVITY	DAILY DOSE RECOMMENDED	MAIN APPLICATION
ANTIOXIDANT		DIETARY SUPPLEMENTS : TABLETS, SOFTGELS
SUN PROTECTION	BETWEEN 60 AND 120 MG	FUNCTIONAL FOODS: YOGHURTS, SNACK, BEVERAGE, CEREAL BARS
SLIMMING – WEIGHT MANAGEMENT		COSMETICS

LABELLING GUIDELINES

- VITAFLAVAN®
- WHITE GRAPE SEED EXTRACT
- OPC OF GRAPE SEED
- OPC
- PROCYANIDIN
- VITIS VINIFERA SEED EXTRACT

drt nutraceutics - we extract qualities from nature Extracting and purifying the qualities from nature to enable improvements in diet, nutrition and health is the specific field of expertise of drt nutraceutics. It develops ingredients that have a well-deserved reputation of high quality and purity for dietary supplements, functional foods and cosmetics.	
<p>For further information on vitaflavan® or any other DRT ingredients, please e-mail : drtnutraceutics@drt.fr</p> <p>30, rue Gambetta - BP 206 - 40105 DAX Cedex (France) Tel : + 33(0)5 58 56 62 00 - Fax : + 33(0)5 58 56 62 40 Web : www.drtnutraceutics.com / www.vitaflavan.com</p>	<small>IMPRIMERIE ALBERT SOUTIEN</small>