FOOD SUPPLEMENT BASED ON
ZEBRAFISHCAVIAR™
TETRAHYDROCURCUMINOIDS
C3 Reduct® AND VITAMIN D

Advanced formula aimed at lowering inflammation, antioxidant protection, physiological cellular reprogramming and immune system support.

Why Cell Reprogram drops were created?

Oxidation and inflammation

They reduce cellular function, hindering defense and regeneration processes.

Alteration of cellular mechanisms

Cells struggle to maintain their energy and communication efficiency.

Need for safe and targeted support

We need active ingredients capable of counteracting oxidative stress, **strengthening the immune response** and **promoting the physiological reprogramming** of cells towards equilibrium.

Curcumin: A Natural Compound for Well-Being

Tetrahydrocurcuminoids
Why not a "classic" curcumin?

Free curcumin has **low bioavailability**, Tetrahydrocurcuminoids exceed it.

Poor solubility + rapid metabolism

Classic curcumin is rapidly metabolized and eliminated from the body.

THC (tetrahydrocurcuminoids) = final active ingredients

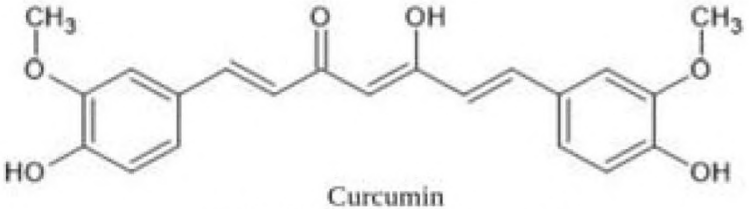
→ availability and consistency

C3 Reduct®
Tetrahydrocurcuminoids

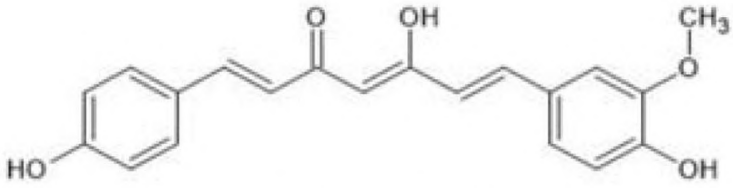
Tetrahydrocurcuminoids (THC) are the major active metabolites of curcumin that are formed in the body after oral administration.

Turmeric plant

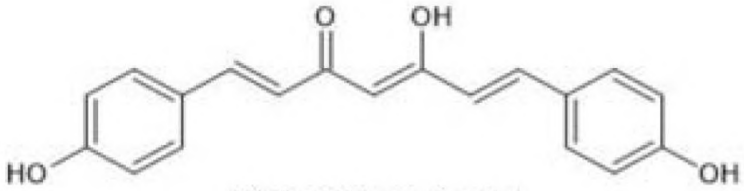
Turmeric rhizome and grounded powder



Curcumin
(60%–70% of turmeric extract)



Demethoxycurcumin
(20%–27% of turmeric extract)



Bisdemethoxycurcumin
(10%–15% of turmeric extract)

Tetrahydrocurcuminoids (THCs) C3 Reduct®

- **It is a collective term for a group of three main compounds, all derived from the natural curcuminoids of turmeric:**

Tetrahydrocurcuminoids
(from curcumin)

Tetrahydrodemethoxycurcumin
(from demethoxycurcumin)

Tetrahydrobisdemethoxycurcumin
(fromTetrahydrodemethoxycurcumin)

- **Together they form the "tetrahydrocurcuminoid" blend, which is what Curcumin C3 Reduct® (standardized to ≥95%) contains.**

- **C3 Reduct is a standardized extract obtained by hydrogenating curcuminoids from Turmeric rhizomes**

What are the functional advantages of Tetrahydrocurcuminoids C3 Reduct® compared to curcuminoids?

Better absorption

Tetrahydrocurcumin has better intestinal absorption potential than curcumin

Greater stability

Tetrahydrocurcumin exhibits better stability at physiological pH

Active form

Tetrahydrocurcumin is ultimately the pharmacologically active form of curcumin within the body

Enhanced activity

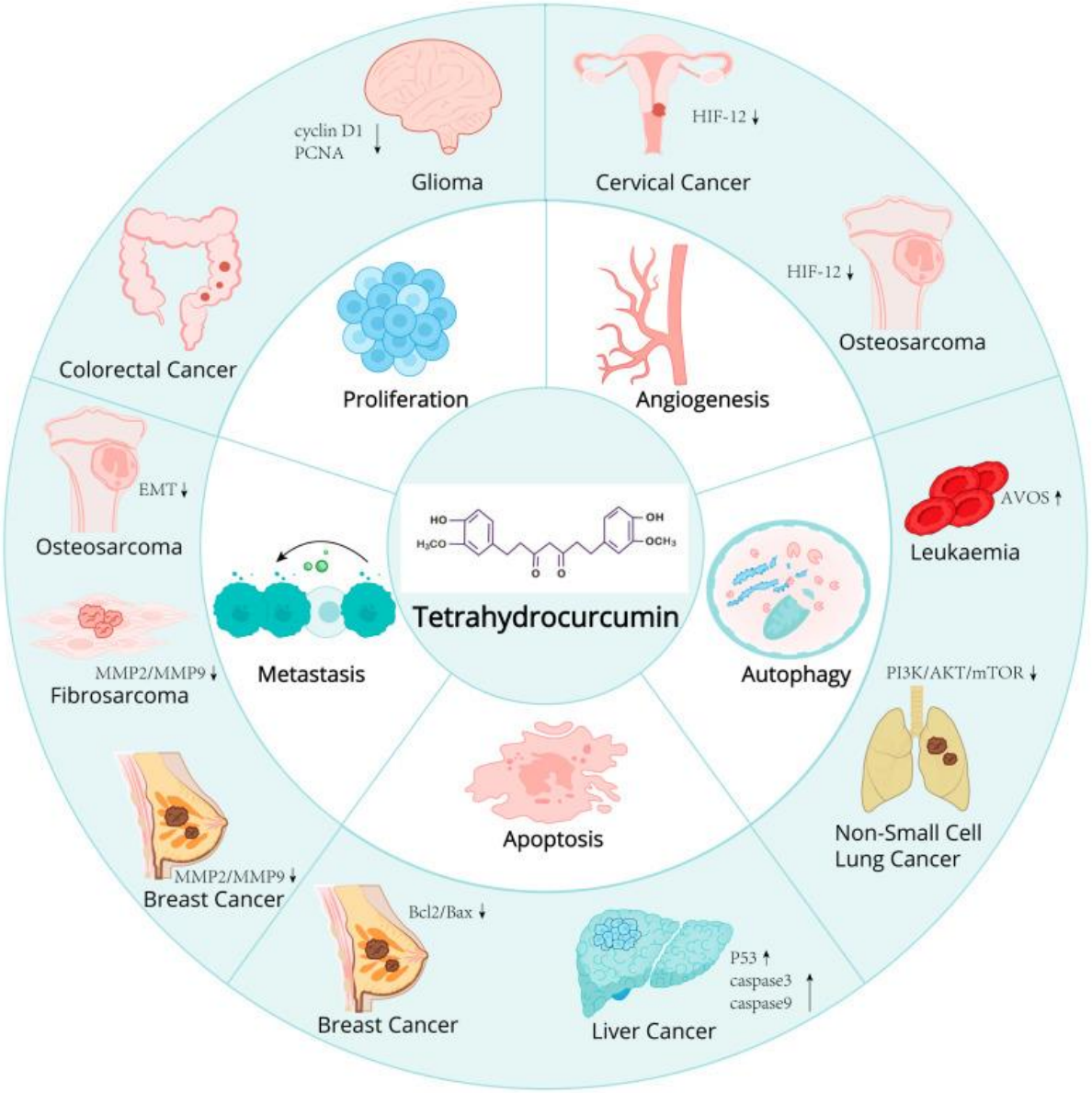
Tetrahydrocurcumin has also shown stronger pharmacological activity than curcumin

Properties of Tetrahydrocurcuminoids C3 Reduct®

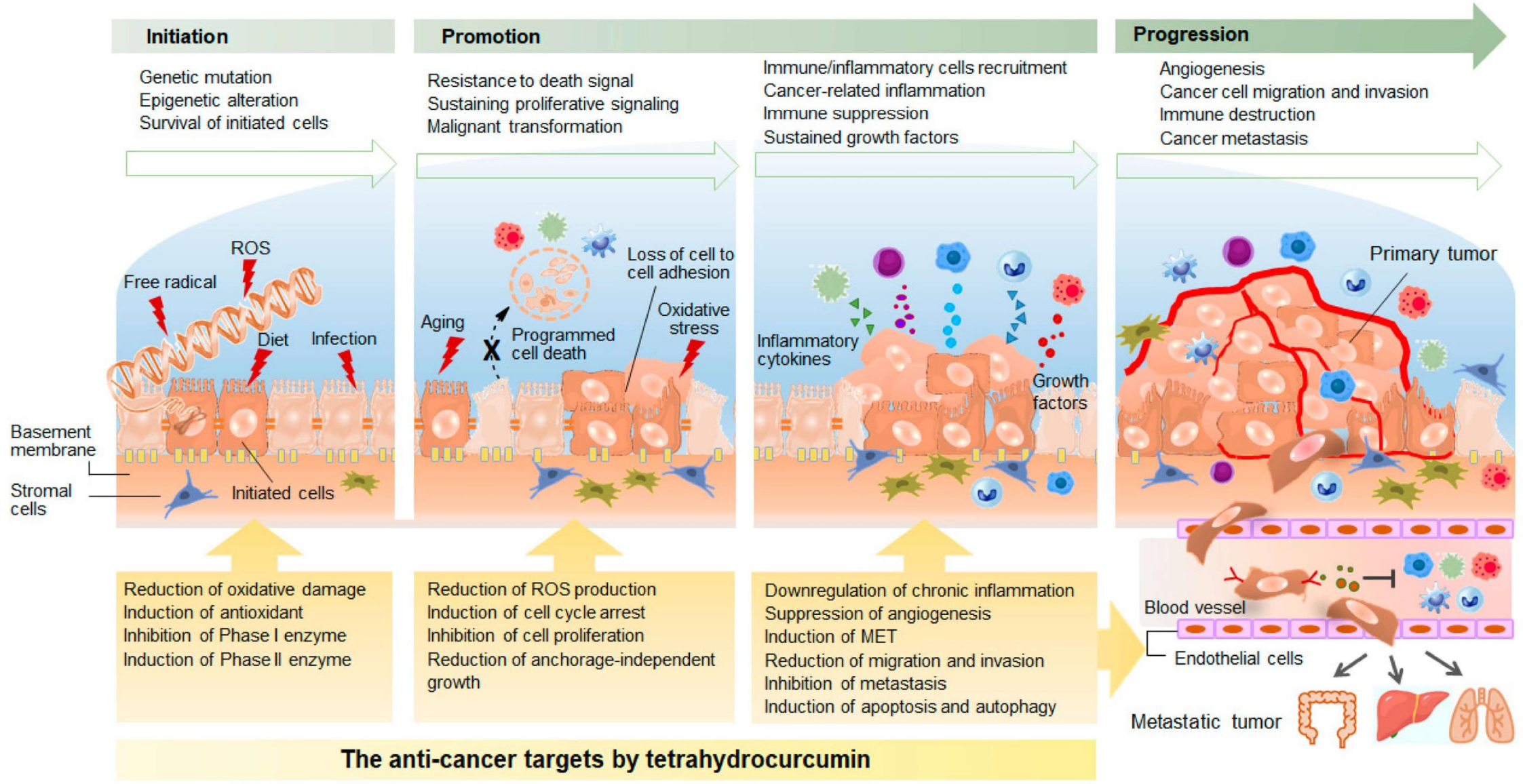
Tetrahydrocurcuminoids show enormous potential with regard to the following properties:

- Oxidation modulator
- Anti-hyperlipidemic
- Anti-aging
- Anti-inflammatory
- Anti-glycation
- Anti-Alzheimer
- Hepatoprotective
- Cardioprotective
- Antidiabetic
- Renal protection
- Anti-carcinogenic

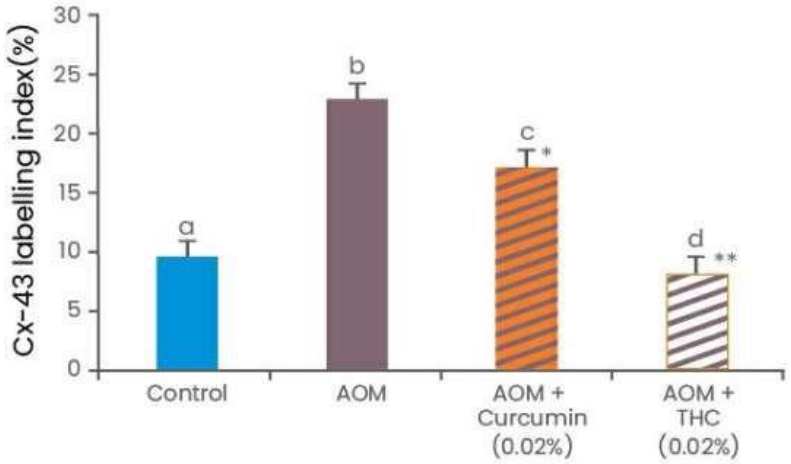
Antitumor mechanisms of action



Zeng A, Quan Y, Tao H, Dai Y, Song L, Zhao J. The Role of Tetrahydrocurcumin in Tumor and Neurodegenerative Diseases Through Anti-Inflammatory Effects. Int J Mol Sci. 2025 Apr 10;26(8):3561. doi: 10.3390/ijms26083561. PMID: 40332041; PMCID: PMC12027286.


Initiation
Genetic mutation
Epigenetic alteration
Survival of initiated cells
Promotion
Resistance to death signal
Sustaining proliferative signaling
Malignant transformation
Immune/inflammatory cells recruitment
Cancer-related inflammation
Immune suppression
Sustained growth factors
Progression
Angiogenesis
Cancer cell migration and invasion
Immune destruction
Cancer metastasis
ROS
Free radical
Diet
Infection
Basement membrane
Stromal cells
Initiated cells
Aging
Programmed cell death
Loss of cell to cell adhesion
Oxidative stress
Inflammatory cytokines
Growth factors
Primary tumor
Blood vessel
Endothelial cells
Metastatic tumor
Reduction of oxidative damage
Induction of antioxidant
Inhibition of Phase I enzyme
Induction of Phase II enzyme
Reduction of ROS production
Induction of cell cycle arrest
Inhibition of cell proliferation
Reduction of anchorage-independent growth
Downregulation of chronic inflammation
Suppression of angiogenesis
Induction of MET
Reduction of migration and invasion
Inhibition of metastasis
Induction of apoptosis and autophagy
The anti-cancer targets by tetrahydrocurcumin

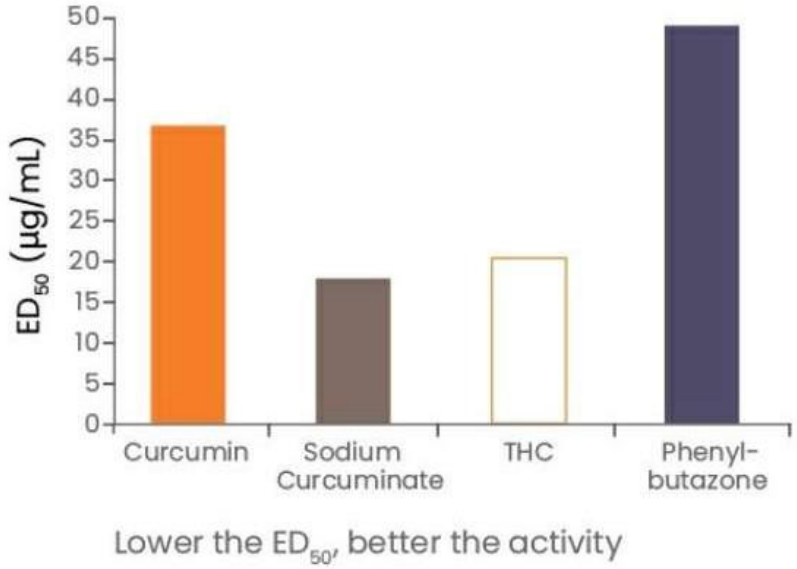
Tetrahydrocurcumin (THC) is more effective than curcumin in preventing azoxymethane (AOM)-induced colon carcinogenesis



Effetti inibitori della curcumina e del THC sull'espressione della proteina Cx-43 indotta da AOM nel tessuto colorettale (Adattato da Lai *et al.*, 2011)

Inhibitory effects of curcumin and THC on AOM-induced Cx-43 protein expression in colorectal tissue (adapted from Lai et al., 2011)

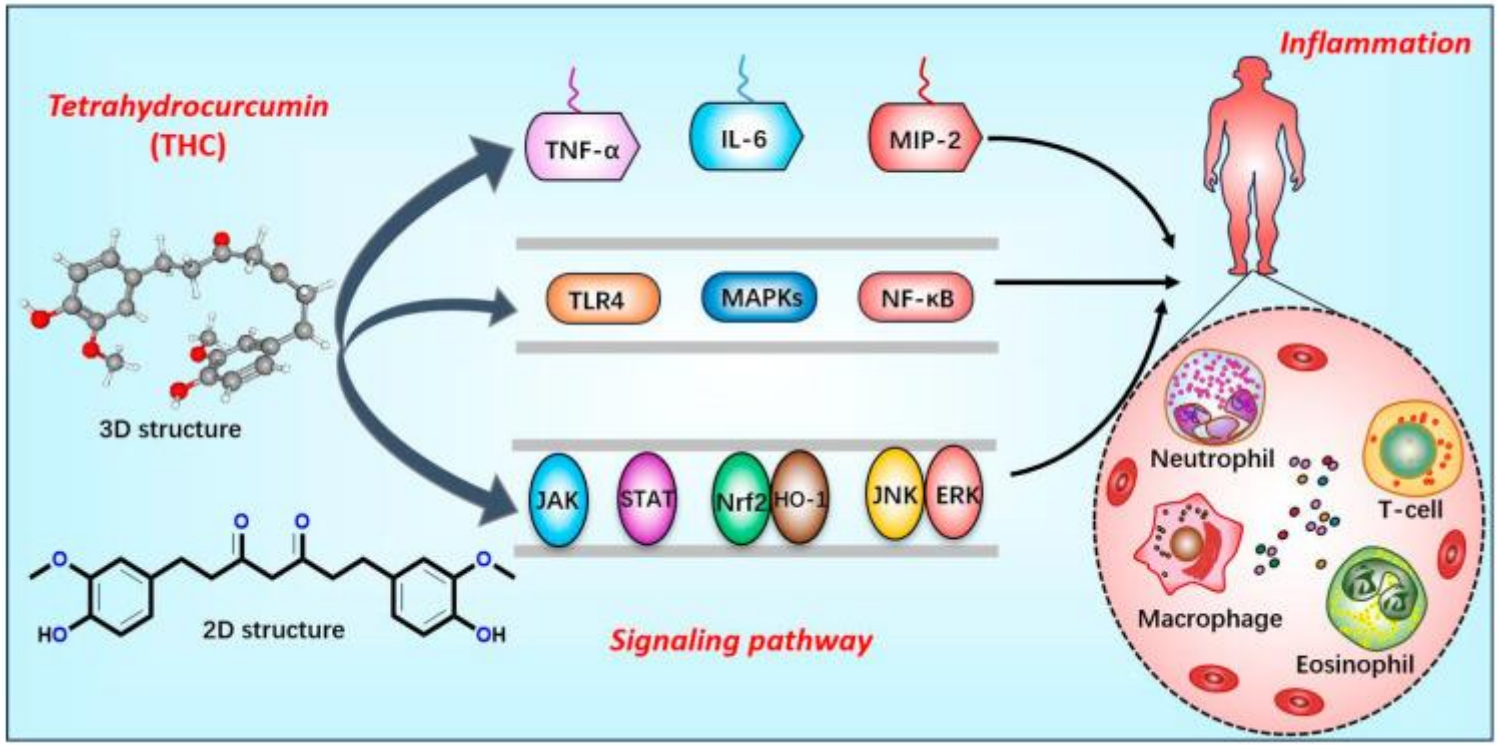
Anti-inflammatory potential



Effetto dei derivati della curcumina e del fenilbutazone sull'edema della zampa indotto dalla carragenina nei ratti
(Adattato da Itokawa *et al.*, 2008)

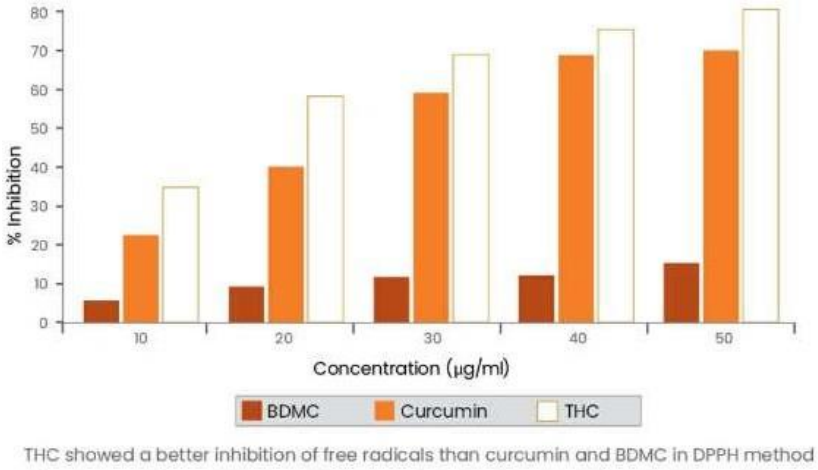
THC suppressed tissue levels of IL-1β, IL-6, TNF-α, and PGE2, indicating it may alleviate acute inflammation by mitigating the production of pro-inflammatory mediators. In addition, THC significantly inhibited the expression of COX-2.

Effect of curcumin and phenylbutazone derivatives on carrageenan-induced paw edema in rats (Adapted from Itokawa et al., 2008)

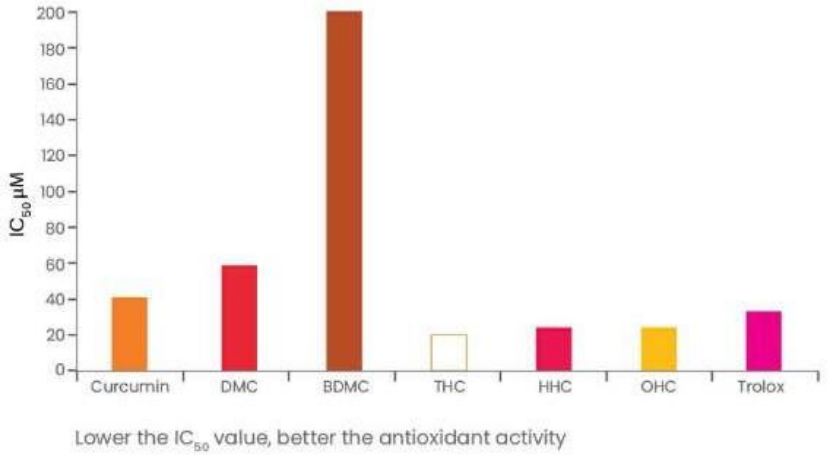


Tetrahydrocurcumin influences disease progression by regulating inflammatory cytokines (TNF-α, IL-6, MIP-2), key proteins (TLR4, MAPKs and NF-κB) and signaling pathways (JAK/STAT, Nrf2/HO-1 and JNK/ERK).

Modulator of cellular oxidation



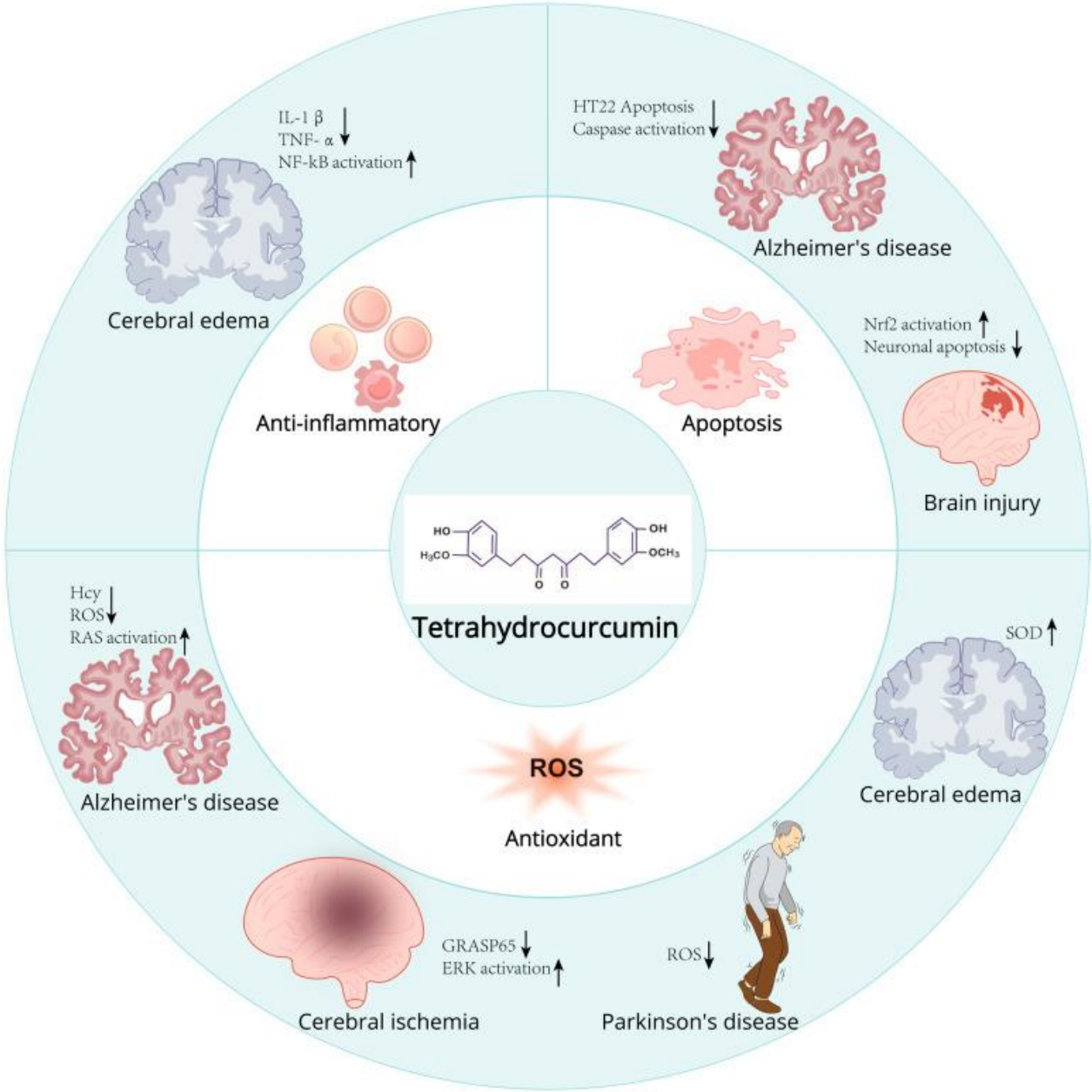
Free radical scavenging capacity of THC compared to curcumin and BDMC (adapted from Majeed et al., 1995)



Free radical scavenging capacity of THC compared to curcumin and BDMC (adapted from Majeed et al., 1995)

THC is a stable, potent, and multifunctional antioxidant, superior to curcumin in:

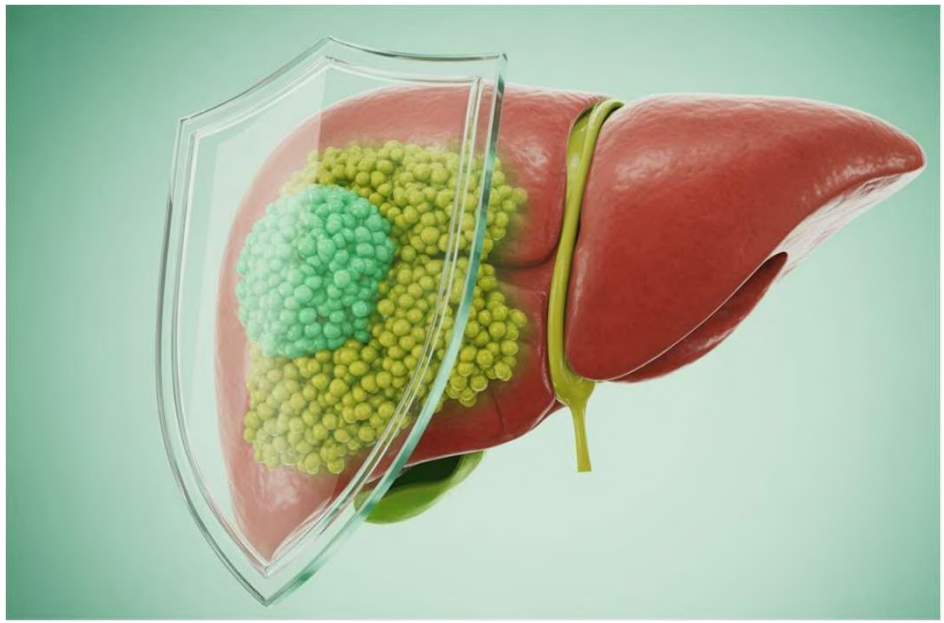
- its ability to neutralize DPPH, superoxide, and hydroxyl radicals;
- its prevention of lipid peroxidation;
- its tissue protection against renal and metabolic oxidative stress.
- It improves redox balance and may contribute to systemic cellular protection.



Mechanism and role of tetrahydrocurcumin in neurodegenerative diseases.

Hepatoprotective activity of Tetrahydrocurcuminoids

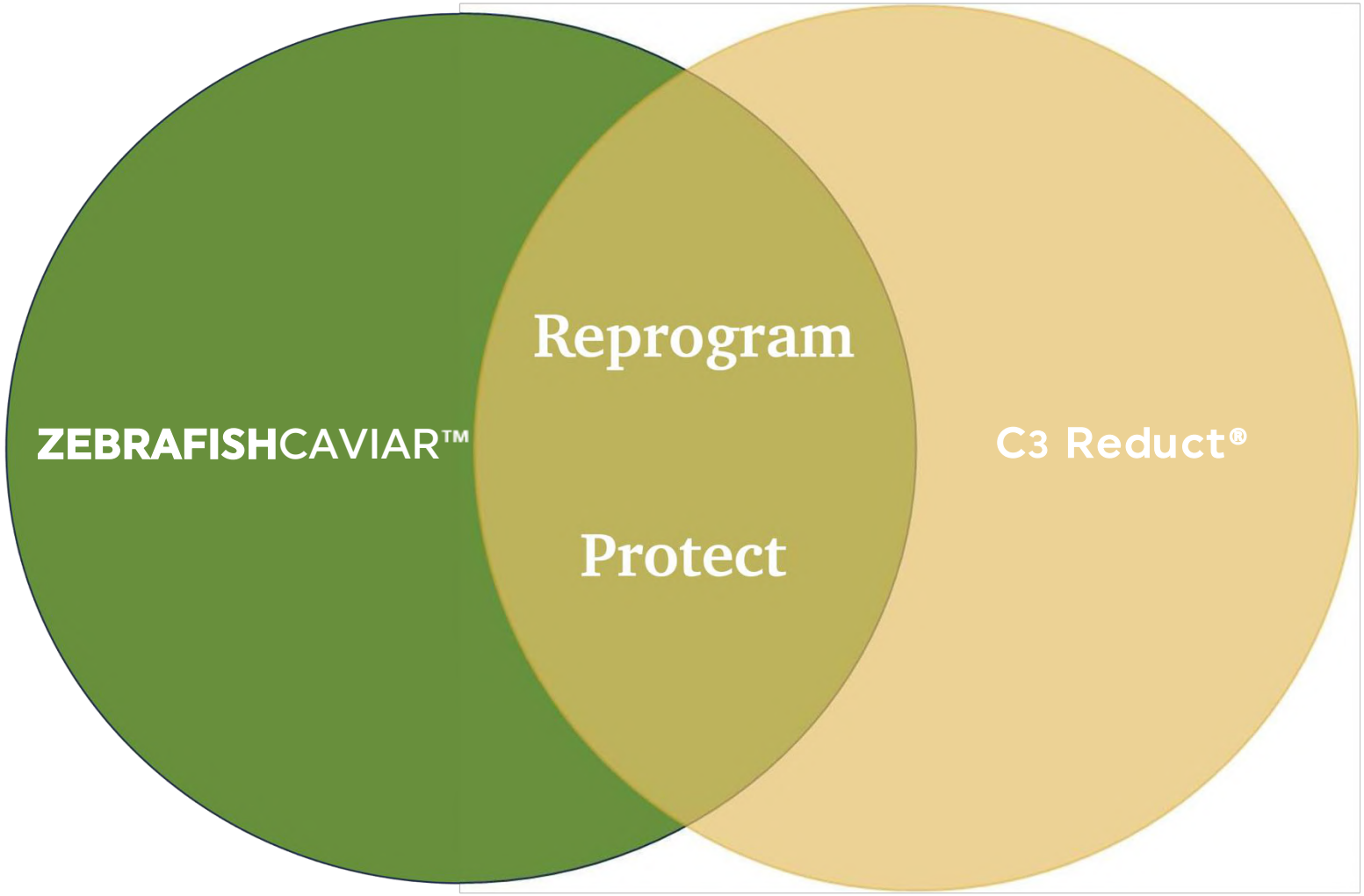
Tetrahydrocurcuminoids (THC) exert a marked hepatoprotective effect, superior to curcumin, thanks to their stability, bioavailability, and antioxidant potency. They are effective in counteracting liver damage induced by drugs, heavy metals, and oxidizing agents, preserving liver function and cellular integrity.



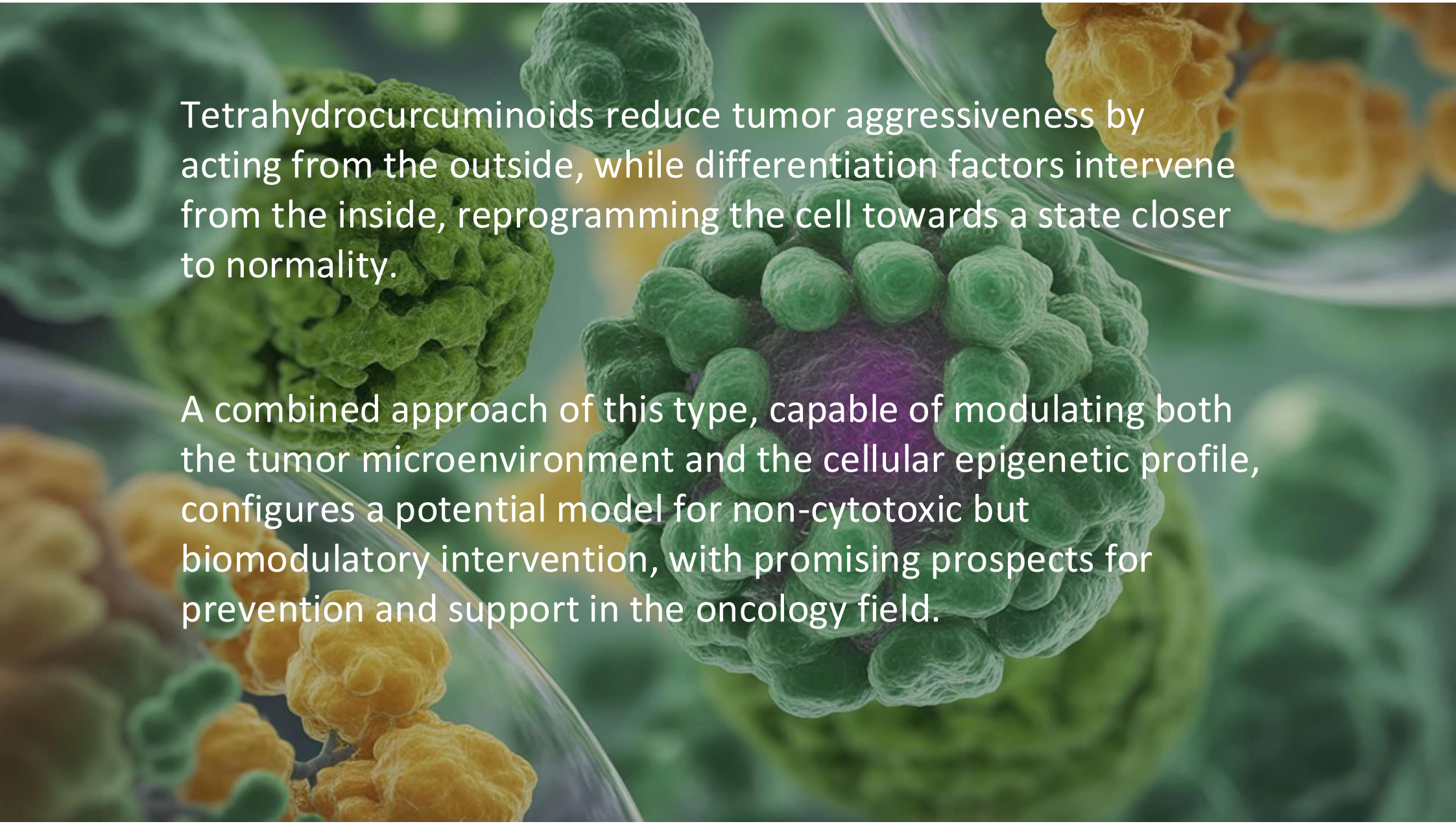
Tetrahydrocurcumin and octahydrocurcumin, the primary and final hydrogenated metabolites of curcumin, possess superior hepatic-protective effect against acetaminophen-induced liver injury: Role of CYP2E1 and Keap1-Nrf2 pathway

Dan-Dan Luo [a 1], Jin-Fen Chen [a 1], Jing-Jing Liu [a], Jian-Hui Xie [b], Zhen-Biao Zhang [c], Jiang-Yong Gu [d], Jian-Yi Zhuo [a], Song Huang [a], Zi-Ren Su [a e 2], Zhang-Hua Sun [a 2]

Cell Reprogram Drops



Our 2 core pillars approach: Reprogram (ZEBRAFISHCAVIAR™ + Protect (C3 Reduct®)



Tetrahydrocurcuminoids reduce tumor aggressiveness by acting from the outside, while differentiation factors intervene from the inside, reprogramming the cell towards a state closer to normality.

A combined approach of this type, capable of modulating both the tumor microenvironment and the cellular epigenetic profile, configures a potential model for non-cytotoxic but biomodulatory intervention, with promising prospects for prevention and support in the oncology field.

Antioxidant synergy

First line of defense

THCs provide a powerful first line of antioxidant defense, neutralizing free radicals before they damage cellular components, and activating endogenous antioxidant enzymes (e.g., glutathione peroxidase, heme oxygenase-1)

Internal improvements

At the same time, Zebrafish factors improve the cellular redox state "from inside", promoting efficient metabolism free of toxic build-ups.

While tetrahydrocurcuminoids scavenge circulating free radicals and block oxidative chain reactions, Zebrafish factors reduce the susceptibility of cells to oxidative stress.

Expected Result

The expected result is a synergistic reduction in oxidative damage: cell membranes, DNA, and structural proteins are protected from oxidative degeneration more effectively than each component alone.

Anti-inflammatory synergy

A dual attack on inflammation

On the one hand, by blocking the inflammatory cascade at the biochemical level, on the other, by reprogramming tissues towards a resolved, non-inflammatory state

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Useful for counteracting chronic micro-inflammations related to aging (inflammaging) and widespread low-grade inflammatory states

Ingredients: stabilizer: glycerol; water, emulsifier: polysorbate; Tetrahydrocurcuminoids C3 Reduct®, ZEBRAFISHCAVIAR™ liquid caviar extract* (contains fish derivatives), acidifier: citric acid; preservatives: potassium sorbate, sodium benzoate; cholecalciferol (vitamin D3).

Interaction in the bioavailability and stability of active ingredients

An interesting aspect is the possibility that tetrahydrocurcuminoids act as carriers and stabilizers for the delicate protein factors of the Zebrafish extract.

Antioxidant Protection

The presence of a strong antioxidant like THC can help protect proteins from oxidation.

Formulation Stability

Tetrahydrocurcuminoids improve formulation characteristics: because they are stable and soluble even at neutral or slightly acidic pH, they can help maintain the zebrafish extract in an optimal protective matrix without losing its activity.

Improved Absorption

THCs may increase the permeability of oral mucosa just enough to improve absorption of small zebrafish proteins.

Cell Reprogram Drops

Cell Reprogram Drops represent an innovative and synergistic approach to cellular protection and regeneration. Thanks to the unique combination of C3 Reduct® Tetrahydrocurcuminoids, ZEBRAFISHCAVIAR™, and Vitamin D:

It effectively counteracts oxidative stress and inflammation

It promotes the biological reprogramming of cells towards balance

It supports immune, liver and cardiovascular functions

A biomodulatory, non-cytotoxic intervention model that aims to protect, regenerate and rebalance our organism from inside.

Ingredients: Stabilizer: glycerol; water, emulsifier: polysorbate; Tetrahydrocurcuminoids C Reduct®; ZEBRAFISHCAVIAR™ caviar liquid extract (derived from fish roe); Acidifier: citric acid; Preservatives: Potassium sorbate, Sodium benzoate; Cholecalciferol (vitamin D3).

How to use: 30 drops (1 ml) to be held in the mouth without swallowing for about 60 seconds and then swallow for 3 times a day. (Daily dose: 90 drops or 3ml). Shake very well before use.

Warnings: Store in a cool, dry place, away from light and heat. This product is intended for adults, excluding pregnant or breastfeeding women. Do not consume this product
if you are taking other dietary supplements containing curcumin and/or curcuminoids on the same day. Do not exceed the recommended daily dose. Supplements should not
be used as a substitute for a varied and balanced diet and should be part of a healthy lifestyle.


GLUTEN-FREE
LACTOSE-FREE
WITHOUT SWEETENERS
CELL
REPROGRAM®
Integratore alimentare
di Tetraidrocurcuminoidi,
ZEBRAFISHCAVIAR™ e Vitamina D
30 ml
Novacell
Biotech company srl