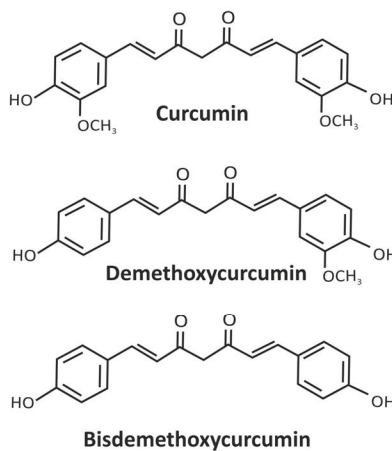




Curcumin C3 Complex®

A Versatile Phytonutrient



Turmeric is one of the most revered plants. Though originated in the Indian subcontinent, but today it is used worldwide as a health food supplement, spice, natural food colorant and even as a cosmetic ingredient.

Much of the credit for the popularity of turmeric goes to the ancient texts of Ayurveda written almost 2500 years ago, describing the benefits of turmeric. However, it is modern science which has made it possible for millions to get the health benefits from turmeric's unique compounds.

Sabinsa's Curcumin C3 Complex® is obtained from the dried rhizomes of *Curcuma longa* (Turmeric) and standardized for minimum 95% Curcuminoids.

The name C3 Complex® has reference to its three main chemical compounds - Curcumin, Demethoxycurcumin (DMC) and Bisdemethoxycurcumin (BDMC) - **collectively known as "Curcuminoids"**. **Curcumin C3 Complex®** is a patented and clinically evaluated **"Bioprotectant"** composition of three Curcuminoids.

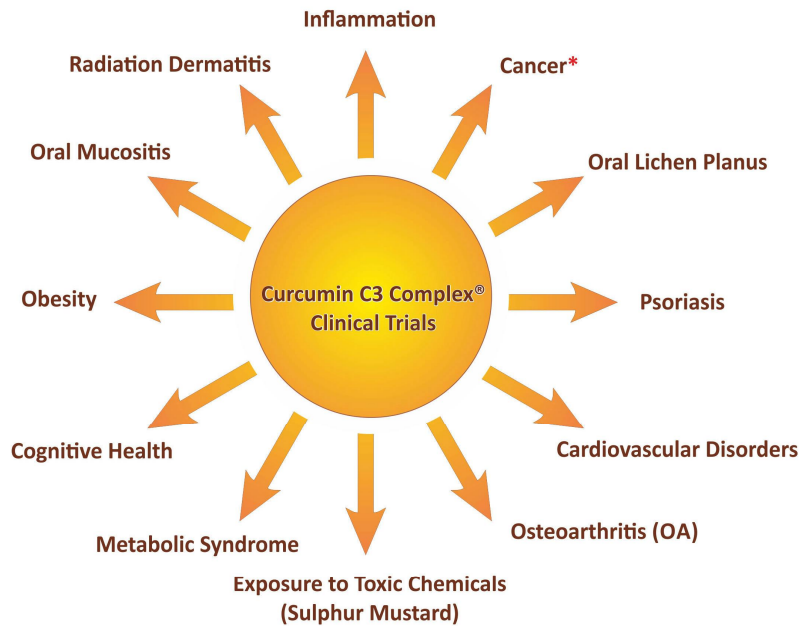
Ayurveda practiced in India for ages used turmeric in several traditional formulations and was provided as personalized treatment by practitioners, however, it encountered a major hurdle while using these formulations in the Western world due to **lack of the concept of standardization**. Hence, standardization of herbal formulations is essential in order to assess the quality of medicines based on the concentration of actives.

Stepping Stones: Bridging Ancient Knowledge with Modern Science

- The “**concept of standardization**” was realized by the researchers at Sami/Sabinsa in very early days of their work on turmeric
- Sabinsa for the first time introduced this modern science concept for actives in the turmeric extracts to bring the best out of Ayurveda
- This concept of bio-standardization was later used in several herbal products by the industry as a standard tool
- The scientific team at Sabinsa Corporation derived an optimized composition of Curcuminoids from rhizomes of turmeric to provide maximum antioxidant or bioprotectant activity
- Later this unique and patented composition of Curcuminoids was marketed under the brand name “**Curcumin C3 Complex®**”. available as a dietary supplement/ nutraceutical/ functional food/ health food
- Curcumin C3 Complex® achieved a major landmark in 2013 when it received **“No Question” GRAS affirmation from the USFDA**, which meant that it achieved the Generally Recognized as Safe (GRAS) status and now could be used in the food category as well
- There are more than 80 research papers including 45+ clinical studies that have been published in peer-reviewed journals and counting..!
- Today, Sabinsa’s Curcumin C3 Complex® enjoys the special status of being the “**Most Extensively Studied and Clinically Documented**”

The journey of Sabinsa’s Curcumin C3 Complex® clinical trials has helped exploring the potential of Curcumin in preventive healthcare and has carved a unique place for Curcumin in the dietary supplement industry making it **“The Most Trusted Brand+”** for over two decades.

Curcumin and its Potential Health Benefits



* Pancreatic Cancer, Multiple Myeloma, Monoclonal Gammopathy of Undefined Significance, Colorectal Cancer, Breast Cancer, Non-Hodgkin's Lymphoma, Smoldering Multiple Myeloma

CURCUMIN C3 COMPLEX®



- **Source:** *Curcuma longa* (Turmeric)
- **Active components:** Curcuminoids
- **Nutraceutical applications**
 - Antioxidant
 - Anti-inflammatory support
 - Immune support
- **Plant part used:** Roots

U.S. PATENT #5,861,415 (1999)

INTERNATIONAL PATENT: European Patent # EP0839037 (2002)

www.curcuminoids.com | www.curcuminC3complex.com



Beneficial Effects of Curcuminoids



- Curcumin C3 Complex[®] is an effective "Bioprotectant", antioxidant quenching free radicals and also preventing their formation¹
- Curcumin has been shown to be a COX-2 (Cyclooxygenase-2) inhibitor¹
- Unlike conventional non steroidal anti-inflammatory drugs (NSAIDs), curcuminoids do not cause gastrointestinal side effects or ulcers
- Curcuminoids support a healthy immune system¹
- Prevent connective tissue break down through inhibiting destructive enzymes²

¹ www.curcuminoids.com

² Liacini, A. et al. *Matrix Biol.* 2002 Apr;21(3):251-62



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Nutraceutical Applications of Curcuminoids



- Antioxidant support
- Alzheimer's disease/dementia
- Cardiovascular support
- Immune support/ Anti-tumor/Anticancer effects, Anti-inflammatory support
- Wound healing
 - For example: Rheumatoid arthritis, postoperative inflammation, colorectal cancer, bladder cancer, oral leucoplakia, psoriasis, antiviral effects.



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PHARMACOLOGY & CLINICAL TRIALS



- 1. Curcumin/Piperine - IND study approved: IND# 61,872**
- Food & Drug Administration Office of Drug Evaluation I, Division of Oncology Drug Products
- 2. The effects of Curcuminoids on aberrant crypt foci in the human colon: IND# 51,685**
- UMDNJ- Robert Wood Johnson Medical School, New Jersey Cancer Institute
- 3. Pilot study of curcuminoids with or without BioPerine® in patients with multiple myeloma: IND# 67,963**
- MD Anderson Cancer Center, University of Texas
- 4. Prevention and intervention of Alzheimer's disease with curcuminoids:**
- University of California, Los Angeles



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PHARMACOLOGY & CLINICAL TRIALS (con't)



- 5. Curcuminoids in patients with Lichen planus: IND#65,700/S-000**
- University of California
- 6. Phase IIa prevention study of C3 Complex® curcuminoids in women at increased risk for breast cancer**
- MD Anderson Cancer Center, University of Texas
- 7. The clinical and laboratory effects of topical curcuminoids in patients with normal skin and with dysplastic and benign nevi**
- National Cancer Institute
- 9. Phase II prevention study with C3 Complex® in patients with colorectal cancer stage I-III**
- Lincoln Medical and Mental Health Center, Bronx, NY



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PHARMACOLOGY & CLINICAL TRIALS (con't)



10. **Phase I trial of C3 Complex[®] and preoperative patients with locally advanced esophageal or gastroesophageal carcinoma**
- MD Anderson Cancer Center, University of Texas

11. **Metabolic studies and chemopreventive studies**
-University of Leicester, UK

Website: www.sabinsa.com

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