

# Curcum-Evail® Chewables



Delicious mango-nectarine chews featuring a highly bioavailable curcuminoid formulation for superior absorption

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Curcum-Evail® Chewables are delicious mango-nectarine flavored curcumin chews designed for people of all ages. Turmeric is a bright yellow-orange spice popular as the main ingredient in Indian curry powders, and its high concentration of curcumin underlies the centuries-old use of this root in Ayurveda, traditional Indian medicine. The three curcuminoids in this product—curcumin, bisdemethoxy curcumin and demethoxy curcumin—are the strongest, most protective and best researched constituents of turmeric root.

Naturally occurring turmeric root powder contains only 5-7% curcumin, while the blend in Curcum-Evail® Chewables is formulated to contain 70% curcumin (as part of a total of 95% curcuminoids). Thus, this product provides a much higher concentration of the active compounds than would typically be obtainable from food alone.

Curcum-Evail® Chewables contain no artificial sweeteners and are sweetened with maltitol syrup and stevia leaf extract.

## How Do Curcum-Evail® Chewables offer Superior Absorption?

Curcumin is made up of a crystalline structure that makes it difficult for the body to absorb. To overcome this hurdle, Curcum-Evail® Chewables are manufactured using the Designs for Health Evail™ process, which is an all-natural formulation that improves the absorption and delivery of curcumin. This process uses a proprietary blend of standardized curcuminoids, sunflower lecithin, and vitamin E, without the use of potentially harmful surfactants. This delivery technology increases the absorption rate and reduces the absorption time for nutrients and may allow for superior effects through lower dosages.

## Benefits of a Chewable Delivery System

Curcum-Evail® Chewables offer additional distinct advantages in addition to the superior bioavailability and absorption owing to the Evail process. The most obvious of these is that a pleasant tasting chewable form may be preferable for children and those who prefer to take fewer pills. Beyond this, however, curcumin delivered via a chewable supplement may be considered a type of topical curcumin therapy in the mouth, effective for targeting the improvement of oral and periodontal health.

## Dental and Oral Health

A randomized clinical trial showed topical curcumin to be an effective analgesic with immunomodulatory effects in cases of recurrent aphthous stomatitis (canker sores), making it an effective alternative to steroids for this condition.<sup>61</sup> A separate study showed topical curcumin to enhance and accelerate wound healing in an animal model of oral ulcers.<sup>62</sup> Due to the antibacterial and anti-inflammatory effects of curcumin, Curcum-Evail® Chewables may be a useful adjunct to treatment of periodontitis and gingivitis. In a study of adults with mild to moderate plaque gingivitis, twice daily application of a curcumin gel in the mouth substantially reduced the plaque, gingival and sulcus bleeding indices. While results were less impressive than those obtained with chlorhexidine gluconate, the results were still highly significant, and without the potential side-effects of the antiseptic, including the destruction of normal beneficial oral flora.<sup>63</sup> In patients with chronic periodontitis, topical curcumin gel was more effective than chlorhexidine at reducing clinical parameters (probing pocket depth and clinical attachment level) and microbiological parameters (colony forming units/CFU).<sup>64</sup> Curcumin was also more effective than chlorhexidine for speeding wound healing and decreasing ulceration and erythema in individuals with oral mucositis induced by chemotherapy and radiation, and it may be beneficial for those with upper respiratory tract infections downstream of chemotherapy induced mucositis.<sup>65,66</sup>

The benefits of curcumin in the mouth are not only important for oral and dental health but also for heart health, as oral bacteria may influence infections in the heart. (Consider adding Designs for Health's PerioBiotic™ toothpaste to the regimen of those with dental and periodontal health concerns.)

## Supplement Facts

Serving Size 1 Chew

Amount/serving	% Daily Value	
Calories	20	
Calories from Fat	5	
Total Fat	0.5 g	1%*
Total Carbohydrate	4 g	1%*
Sugar Alcohol	4 g	†
Sodium	15 mg	1%
Turmeric Extract	100 mg	†
<i>(Curcuma longa)</i> (rhizomes)		
[standardized to contain 95% curcuminoids]		

\*Percent Daily Values (DV) are based on a 2,000 calorie diet.

† Daily Value not established.

**Other Ingredients:** Maltitol syrup, palm oil, gum arabic, natural flavor, citric acid, mono and diglycerides, sunflower lecithin, sea salt, vitamin E, stevia leaf extract.



## Curcumin and Oral HPV

Additionally, it is now recognized that approximately one in nine men is infected with oral human papillomavirus (HPV), which is implicated in the development of various types of cancer. According to NHANES data (2011-2014), the overall prevalence of oral HPV infection in the U.S. was 11.5% in men and 3.2% in women, representing 11 million men and 3.2 million women.<sup>67</sup> Of the approximately 11,726 oropharyngeal cancers diagnosed in the U.S. (2004-2008), 63% are likely attributable to HPV.<sup>68</sup> Oropharyngeal squamous cell carcinoma is the most common of all HPV-related cancers in men, with about 12,000 men newly diagnosed annually. Its incidence among men has surpassed the incidence of cervical cancer among women, with cervical cancer also known to be caused by HPV.<sup>69</sup> Oral cancer may take upwards of 20 years to develop from the initial infection, and there is no known treatment for HPV other than vaccines taken early in life. However, a body of research shows that curcumin, by itself or in combination with resveratrol and green tea, may eliminate HPV infected cells or reduce the risk of them developing into neoplasms, and to inhibit growth of malignant human oral epithelial cells.<sup>70-72</sup> (For patients with HPV, consider adding Designs for Health's Resveratrol Supreme and encouraging consumption of green tea.)

### Curcumin helps to support:

- A healthy inflammatory response<sup>5-8,12,18,19,22,60</sup>
- Immune system<sup>6,26,27,32,45</sup>
- GI health<sup>9</sup>
- Oral health<sup>67-83</sup>
- Brain health<sup>20,33,50,51</sup>
- Cardiovascular system<sup>22,30,38,41</sup>
- Liver health<sup>58,59</sup>

Owing to its beneficial effects on oral health, Curcum-Evail® Chewables may be uniquely suited to impact the pathogenesis of rheumatoid arthritis (RA), and the genesis of autoimmunity in general. It is increasingly recognized that oral infections and periodontal pathogens (most notably *Porphyromonas gingivalis*) play a role in the development of RA.<sup>73,74</sup> *P. gingivalis* produces the enzyme peptidyl arginine deiminase 4 (PAD4), which mediates the citrullination of proteins such as vimentin, collagen and fibrinogen, and antibodies to citrullinated proteins are a hallmark of RA.<sup>75</sup> In addition to auto-citrullinating, *P. gingivalis* can mediate the modification of host proteins associated with joint structures, potentially resulting in RA via molecular mimicry.<sup>76,77</sup> *P. gingivalis* is the only human pathogen currently known to express PAD4, and this organism has direct effects on apoptosis of human chondrocytes, a feature of inflammatory joint diseases.<sup>78</sup> The authors of a study that analyzed the effects of *P. gingivalis* on human chondrocytes in vitro stated it clearly: "P. gingivalis promotes early and later stages of apoptosis of primary human chondrocytes, which might contribute to the joint damage seen in the pathogenesis of RA."<sup>79</sup> Several studies corroborate an increased incidence of RA among individuals with periodontitis compared to healthy controls matched for age and gender.<sup>80-82</sup> A small case/control study determined that after factoring in age, RA status, gender, education, smoking, alcohol consumption, and BMI, only RA status and age remained significant predictors of periodontal disease. Subjects with RA had an approximately 8-fold increase in periodontitis incidence compared to controls.<sup>83</sup> The unique and powerful influence of oral bacteria on the development of RA suggests the potential benefits of Curcum-Evail® Chewables go far beyond oral health.

### A unique link: oral health, periodontitis, and rheumatoid arthritis

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### Curcumin's Benefits – A Summary

**Healthy Inflammatory Response** – Like other "warming spices," such as ginger, cinnamon, and cayenne, turmeric's complement of curcuminoids helps to support a healthy inflammatory response in the body.<sup>12</sup> Excessive inflammation is a common risk factor for disease occurrence and progression. Inflammation may lead to joint tissue destruction, cancer, cardiovascular events, insulin resistance/diabetes and brain/liver/kidney degenerative diseases. Curcumin has been shown to reduce both acute and chronic inflammation caused by physical injury, joint wear and tear, chronic infections or inadequate antioxidant protection.<sup>5-8,12,18,19,22,60</sup>

**Immune Support** – A wealth of scientific research supports the benefits of curcuminoid compounds for assisting with a healthy immune system, along with their ability to support the body's natural defense against bacteria. Curcumin acts favorably on the compound NF Kappa B, which plays a key role in regulating the immune response.<sup>6</sup>

**Antioxidant Properties** – Curcumin is known to be a powerful antioxidant.<sup>31</sup> This product is unique in that it increases levels of a major metabolite of curcumin, known as "tetrahydrocurcumin," which has antioxidant effects greater than those of curcumin alone.<sup>2</sup>

For additional information on curcumin, please see our technical sheet on our Curcum-Evail® softgels.

### Recommended Use

As a dietary supplement, take 1 chew per day, or as directed by your health care practitioner.

For a list of references cited in this document, please visit:

<http://catalog.designsforhealth.com/assets/itemresources/Curcum-EvailChewablesReferences.pdf>

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at [www.designsforhealth.com](http://www.designsforhealth.com).