



KADAMBA NANO

Mouthwash



GREEN NANOTECHNOLOGY

India based Research and Development organization, developed highly advanced Green Nanotechnology and various disruptive innovations



**100%
BIO COMPATIBLE**



**PATENTED
TECHNOLOGY**



**NET ZERO CARBON
TECHNOLOGY**

01

Green Nano technology utilizes herb-derived phytochemicals with gold, silver & various nano materials.

Active ingredients produced through this process replace harmful chemicals in various applications.

02

03

The chemical-free method ensures effectiveness, biological safety, & environmental friendliness.

Biocompatibility of Green Nano's active ingredients enhances overall product efficacy.

04

05

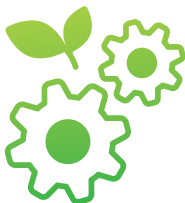
This approach promotes a sustainable and health conscious use of nanotechnology.

GREEN SILVER NANO PARTICLES

Kadamba Mouthwash



**APPROVED BY
AYUSH**



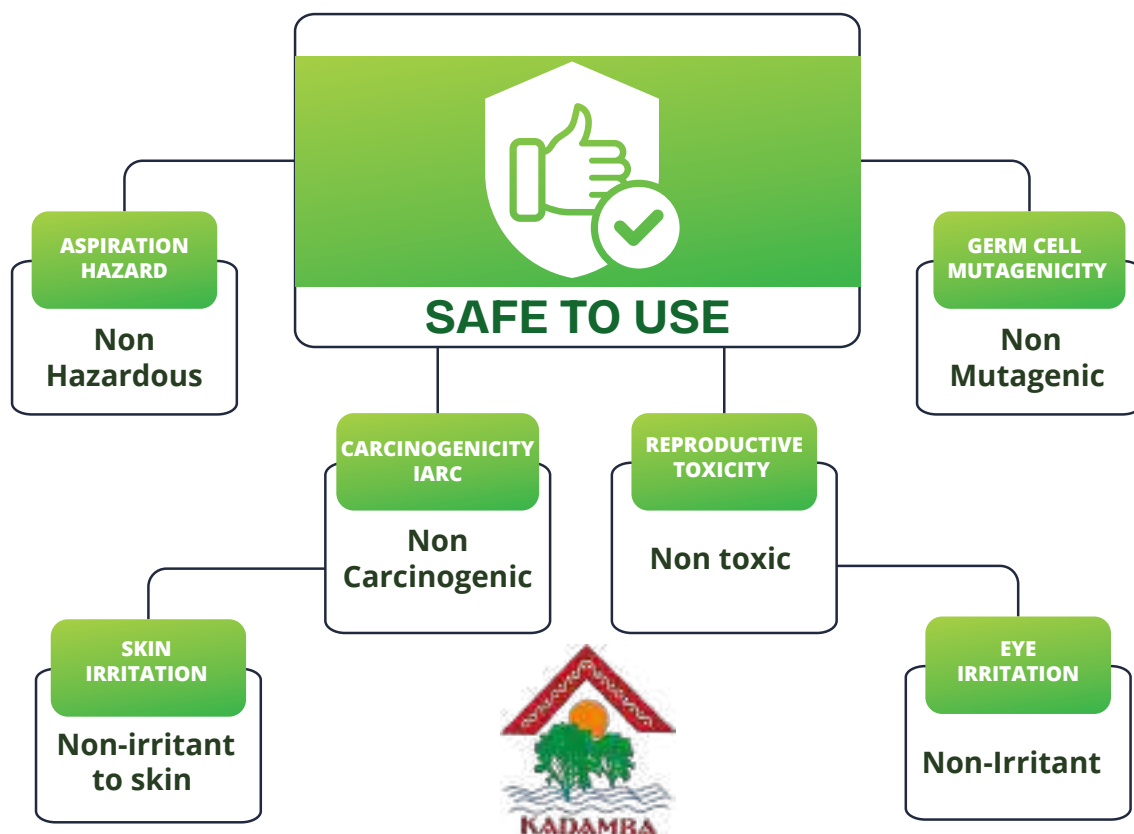
**GREEN SYNTHESIZATION
TECHNOLOGY**



**100% WATER SOLUBLE
NANO MOLECULES**

Kadamba Mouthwash that is not only highly effective
but also entirely biocompatible.

Our mission is to harness the potential of naturally available herbal cocktails
and other organic ingredients to create a range of silver nanoparticles that
are safe for both human health and the environment.



KADAMBA

EFFICACY

Highly effective against any
Gram positive and Gram negative Bacteria, Fungicides, Virus
and any type of Multi Drug Resistant Pathogens (MDRP)

Especially Dental cavity causing and oral infection causing bacteria like

Porphyromonas gingivalis

Streptococcus mutans

Lactobacillus acidophilus

Tannerella forsythia

Actinomyces naeslundii

Fusobacterium nucleatum

Sample	Test Organism	Initial Count (CFU/ml)	Exposure Time	Final Count (CFU/ml)	% Reduction
B2404741-3	MRSA ATCC 43300	1.61×10^5	30 seconds	1.17×10^3	99.27
			1 minute	8.00×10^2	89.50
			3 minutes	2.50×10^2	99.84
			5 minutes	<10	>99.99



Novel formulation for superior dental protection

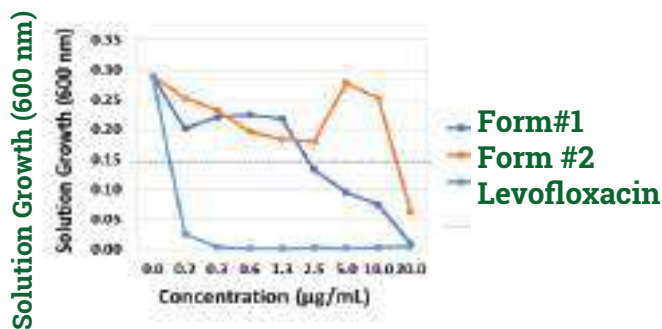
Nearly 19% of adults globally have severe gum disease that can lead to tooth loss. The oral diseases like caries, gum disease, tooth loss affect about 45% of the global population during some stages of their life. Deprived oral health can lead to pain, infection, tooth loss, and correlates with other health conditions such as diabetes and cardiovascular disease.

Kadamba's advanced chemical free phyto-based nano-formulation for oral care will have a concerted superior advantage in oral biofilm penetration and elevating oral health remarkably help prevent oral diseases with very low relative dentin abrasion (RDA) and provides relief from hypersensitivity.

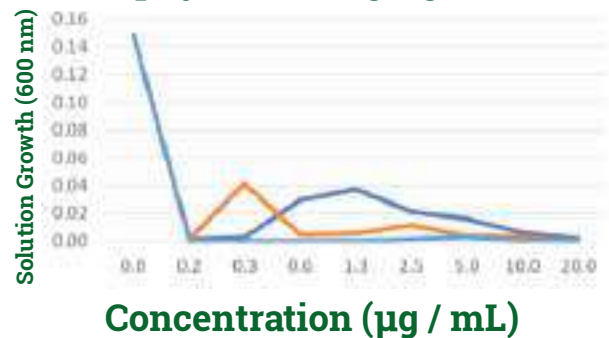
Kadamba Mouthwash

Biofilm Penetration capability of Kadamba oral care formulation:

Aggregatibacter actinomycetemcomitans



Porphyromonas gingivalis



Mechanism of anti-bacterial action

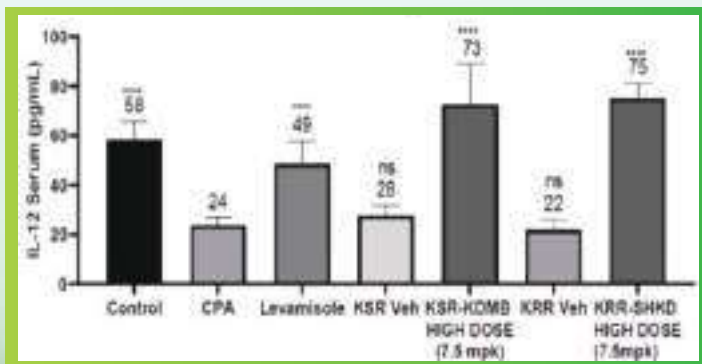
Following the bacterial internalization the functionalized nano-particles will inhibit the bacteria by uncoupling of oxidative phosphorylation which defects the link between ETC and ATP synthesis pathways in bacteria. In addition, the nano particles induce the free radical formation in bacteria lead to death of the cells.

Kadamba Mouthwash Elevates Immue Response

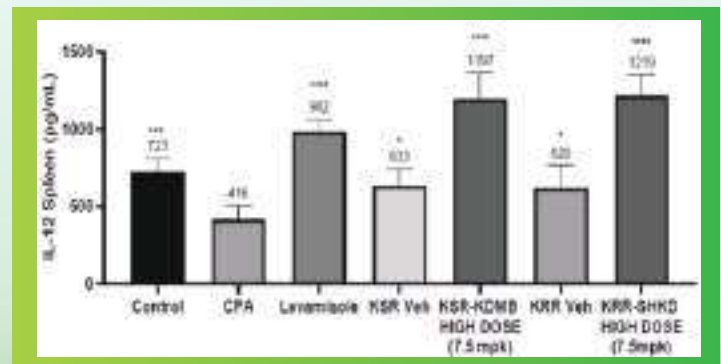
Small regulatory glycoproteins, cytokines, secreted by immune cells like Dendritic cells, Macrophages, T and B cells, amplify the magnitude of immune response

The Kadamba green nano-formulation stimulate the upregulation of pro pro and preinflammatory cytokines like IL-12 and IFN- γ suggests the involvement in immune-reprogramming which enhances the immunity.

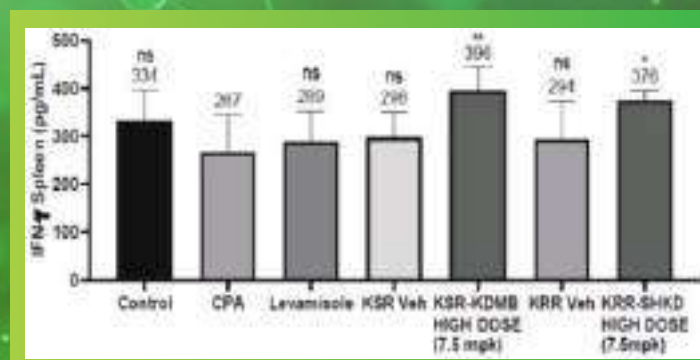
Serum IL-12 (n=6)



Spleen IL-12 (n=6)



Serum IFN- γ (n=6)



Mechanism of Action of Kadamba Mouthwash

Bacterial Cell Wall Destruction

1

Breaks down cell structure, causing lysis.

Disruption

Inhibits bacterial protein synthesis, DNA replication, & respiration.

2

Oxidative Stress

Produces reactive oxygen species (ROS), causing cellular damage.

3

Cell Membrane Damage

Disrupts membrane integrity, leading to leakage & cell death.

4

Penetration

AgNPs penetrate bacterial cell walls, releasing silver ions (Ag⁺).

5

Effects on Bacteria

Protein Interaction

Inactivates essential proteins and enzymes

DNA Targeting

Damages phosphorus & sulfur-containing compounds like DNA

Energy Disruption

Blocks oxidative phosphorylation, depleting energy

KADAMBA MOUTHWASH



SILVER NANO
PARTICLES

16
AYURVEDIC
HERBS USED



Our Silver Nano Mouthwash harnesses the power of microfine silver nanoparticles and natural herbs to tackle everyday dental issues, defend against gingivitis and MRSA, and support oral health.

Harmful Chemicals used in Conventional Mouthwash



Chemical	Usage	Side Effect
Cetylpyridinium Chloride	Antimicrobial Agents	May cause temporary tooth staining, altered taste sensations, or mild irritation of the oral mucosa
Chlorhexidine	Antimicrobial Agents	Can lead to tooth discoloration, taste alteration, and in some cases, irritation or allergic reactions in the oral tissues.
Alcohol	<ul style="list-style-type: none">→ Chemical Solvent→ Antiseptic→ Antimicrobial	Cause dryness and irritation of the oral tissues and an increased risk of oral cancer



Mouthwash's Hidden Chemicals

in others products

Unveiling Health Hazards and Ecological Disruption



Currently, Mouthwash products are saturated with hazardous chemicals that can irritate oral tissues, provoke allergic reactions, and disrupt hormonal balance in susceptible individuals. Moreover, these compounds often bypass conventional wastewater treatments, accumulating in aquatic ecosystems where they foster microbial resistance and disturb natural ecological processes. This persistent environmental load not only endangers biodiversity but also challenges long-term sustainability, underscoring the urgent need for safer, greener alternatives in personal care formulations



Kadamba's Chemical-Free Mouthwash

Green Nano Revolution in Oral Health Safe, Sustainable and Healthier

Green nanotechnology-based Kadamba mouthwash provide safe, effective, and eco-friendly alternatives to conventional mouthwash. By eliminating toxic chemicals like fluoride, parabens, SLS, and artificial additives, these formulations prioritize long-term oral health, natural antibacterial protection, and sustainability, making them superior choices for both consumers and the environment

COMPARISON BETWEEN GREEN NANOTECHNOLOGY-BASED

Kadamba Mouthwash

VS

Conventional Chemical-Based Mouthwash

Feature	Kadamba Mouthwash	Chemical-Based Mouthwash
Ingredients	Herbal extracts encapsulated on green silver Nanoparticles	Alcohol-based formulas with synthetic antimicrobials like Chlorhexidine
Antimicrobial Properties	Uses bio actives encapsulated silver nanoparticles to eliminate harmful bacteria naturally	Relies on synthetic antimicrobials that can disrupt oral microbiota
Alcohol Content	Alcohol-free, preventing oral dryness and irritation	High alcohol content (up to 25%), which may cause burning sensation and dry mouth
Preservatives	Green silver nano particles are known for its highly effective antimicrobial property for preservation	Chemical preservatives like Parabens, Benzalkonium chloride
Long-Term Effects	Supports natural oral microbiome, prevents plaque build-up without side effects	Overuse can lead to staining, taste alteration, and increased bacterial resistance
Environmental Impact	Biodegradable, free from pollutants	Chemical waste from synthetic ingredients contributes to water contamination

*Kadamba's advanced green nano
encapsulation technology
delivers a chemical-free,
antimicrobial oral care solution,
ensuring superior efficacy
against pathogenic microorganisms
while promoting holistic oral health*

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