Microcidin® AF
Low FODMAP Anti-Microbial Formula

Key Features:
• Allium-free formula (low-FODMAP compatible) for individuals intolerant to garlic.
• Berberine has been shown to improve IBS symptoms (abdominal pain, stool frequency & urgency), as well as anxiety and depression in patients with IBS-D.
• Cinnamon - “warming” antimicrobial to prevent loose stool from the “cooling” property of berberine.
• Synergized with concentrated Thyme and Oregano extracts for spasmylytic, carminitive, and broad spectrum antimicrobial effect in the GI tract.
• Neem and Uva Ursi extract are potent antimicrobials, anti-biofilm, and provide additional gastroprotective and antiulcer effects.

Indication:
• Small intestine bacterial or fungal overgrowth (SIBO or SIFO), Dysbiosis, Candidiasis
• H. pylori-induced gastritis, peptic ulcer disease (PUD)
• Gastroenteritis, food poisoning (prevention and treatment)
• Irritable Bowel Syndrome (IBS)
• Upper Respiratory Tract Infections (URTI), Cold/Flu

Description:
Microcidin® AF is a low-FODMAP “Allium-Free” broad spectrum antimicrobial formula that targets multiple mechanisms to inhibit and eradicate pathogenic bacteria, fungi and parasites in the gut.

Berberine has been used clinically to relieve diarrhea caused by gastrointestinal infections, as well as diarrhea-type irritable bowel syndrome (IBS-D).

In an RCT involving patients with acute diarrhea caused by enterotoxigenic Escherichia coli (ETEC), a single dose of 400 mg of berberine sulfate* significantly reduced the stool volume in 8 hours, and stopped the diarrhea within 24 hours compared to controls.\(^1\)

In another RCT on patients with diarrhea-dominant IBS (n=196), 400 mg of berberine hydrochloride* was given twice daily for 8 weeks. Significant improvements in diarrhea frequency (p=0.032), abdominal pain frequency (p<0.01) and urgent need for defecation frequency (p<0.01) were observed in the berberine group compared to placebo.\(^2\)

Berberine is well tolerated in clinical trials, with minor and transient gastrointestinal adverse events (mostly nausea) in the first 4 weeks with 1500 mg of berberine hydrochloride.\(^3\)

*Berberine sulfate contains 87.5% berberine; berberine hydrochloride contains 90.5% berberine.

Thyme is a culinary herb traditionally used to help relieve upper respiratory tract illness (anti-catarrh, spasmylytic), and flatulent dyspepsia and colic (carminative).\(^9\)

The active constituents are phenol and flavonoids compounds, such as thymol, geraniol, thujanol and linalool.\(^6\) Thyme possesses remarkable anti-biofilm, anti-adhesive and bactericidal properties, as well as strong antimicrobial activity against clinical multidrug-resistant strains of Staphylococcus, Entercoccus, Escherichia, Pseudomonas genus\(^9\), antifungal, and antiherpetic properties.\(^10\)

Cinnamon is known to have multiple therapeutic actions involving astringent, antimicrobial, carminative, lipid-lowering, antioxidant/anti-inflammatory, insulin-sensitizing, astringent and anti-clotting properties.\(^11\)

In Traditional Chinese Medicine, cinnamon is considered “warming” and could protect the Spleen and reduced incidence of loose stool from the “cooling” property of berberine.\(^11\)

Quantity: 112 Vegetarian Capsules
Ingredients (per capsules):
Berberine Hydrochloride........................................................250 mg
Thyme Extract (20:1) (Thymus vulgaris).................................35 mg (leaf) (equivalent to 700 mg dried herb)
Cinnamon Extract (10:1) (Cinnamomum aromaticum).............40 mg (bark) (equivalent to 400 mg dried herb)
Neem Extract (20:1) (Azadirachta indica)..............................35 mg (leaf) (equivalent to 700 mg dried herb)
Uva Ursi Extract (10:1) (Arctostaphylos uva-ursi)..................35 mg (leaf) (equivalent to 350 mg dried herb)
Oregano Extract (5:1) (Origanum vulgare).........................50 mg (leaf) (30% carvacrol) (equivalent to 375 mg dried herb)

Non-medicinal Ingredients:
L-leucine, silicon dioxide, pullulan/ hypromellose (capsule)

Suggested Use:
Adults - Take 2 capsules with food, 2 times per day, or as directed by a health care practitioner. May increase the dosing to 3 times per day with food for SIBO Eradication.
Study found two constituents of cinnamon, eugenol and cinnamic acid, have potent antioxidant activity and anti-inflammatory effect on *H. pylori*-induced gastritis in vitro and are protective against gastric damage in vivo through stimulation of mucus secretion.[12] Recent studies have also demonstrated the anti-Candida and anti-biofilm efficacy of cinnamomol,[13] as well as its antiviral activity against influenza A virus.[14]

**Oregano** has been shown to exert cytotoxic, antioxidant, and antibacterial activities, which mostly attributed to carvacrol and thymol.[16] It has been shown bacteriocidal and bacteriostatic to some clinically significant pathogens such as *Pseudomonas aeruginosa*, *E. coli*, Acinetobacter baumannii, Candida albicans and *S. aureus* (including MRSA).

**Uva Ursi** is traditionally used as antimicrobial/mild diuretic in UTI. It has also been demonstrated in vitro to have anti-*S. aureus* activity,[17] as well as strongest direct growth-inhibitory and anti-quorum sensing (bacterial cell-to-cell communication systems) against *Chromobacterium violaceum* and *Pseudomonas aeruginosa*, among seven selected medicinal plants.[18] **Arbutin** is thought to be the main constituents for antimicrobial effect. Moreover, arbutin has been demonstrated to have anti-ulcer/gastro-protective activity, making it a potential application in gastrointestinal conditions.[19]

**Neem (Azadirachta indica)** has been traditionally used in Chinese, Ayurvedic and Unani medicines worldwide for various diseases.[20] Constituents such as polyphenols, quercetin and beta-sitosterol were identified to have antifungal and antibacterial activities through growth inhibition and cell wall breakdown. Studies also found neem has properties against biofilm formation of MRSA and *P. aeruginosa*.[21, 22], as well as potent gastroprotective and antioxidant effects.

**Reference:**


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