



Capturing
nature's power

HTBA (HealthTech BioActives) is a global leader in Natural Flavonoids and B12 forms, creating a measurable impact on consumers' well-being by providing top class ingredients from nature.

40+ years of experience producing consumer-centric solutions in Functional Health, Pharmaceutical APIs, Taste Modulation, and Animal Nutrition.

Adhering to the highest European manufacturing standards in sustainability, quality, and supply chain.

Because there are no limits to nature when there is a team of passionate experts who know how to best harness its power.

Quality Certifications:

- FAMIQS
- FSSC 22000
- ISO-9001 / 14001
- GMP
- HACCP
- SMETA-4
- EcoVadis
- Kosher / Halal

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Product Info Sheet

A natural solution designed to support digestive health, antioxidant balance, and overall wellbeing in companion animals.

Bioflavex® PETS

A science-backed citrus
flavonoid



What is Bioflavex® PETS?

It is a standardized citrus flavonoid complex primarily composed of naringin and neohesperidin, naturally extracted from *Citrus aurantium*.

Backed by over 40 years of research and proprietary studies in monogastric species, **Bioflavex®** has demonstrated consistent benefits in:

- ✓ Gut microbiota modulation
- ✓ Intestinal barrier integrity
- ✓ Antioxidant status
- ✓ Nutrient utilization and performance parameters

Bioflavex® PETS translates this science-driven expertise into a functional solution for companion animal nutrition, supporting digestive health and overall vitality.

How does it work?

1. Local action in the gastrointestinal tract

Citrus flavonoids act primarily at the intestinal level, where they interact with the gut microbiota. Studies in broilers showed increased amounts of beneficial bacteria such as *Lactobacillus* spp., contributing to improved microbial balance.

By serving as substrates for microbial metabolism, citrus flavonoids support short-chain fatty acid (SCFA) production, which plays a key role in:

- ✓ Enterocyte energy supply
- ✓ Maintenance of epithelial integrity
- ✓ Regulation of local inflammatory responses

2. Intestinal barrier support

Proprietary trials in weaned piglets demonstrated modulation of genes associated with:

- ✓ Tight junction proteins (e.g., OCLN, ZO-1)
- ✓ Mucus production (MUC2)
- ✓ Nutrient transporters

These effects were associated with improved gut functionality and enhanced nutrient absorption capacity.

3. Antioxidant and redox modulation

Naringin and neohesperidin are potent antioxidant flavonoids.

In broiler models, **Bioflavex®** supplementation significantly reduced serum malondialdehyde (MDA), a biomarker of oxidative stress, and supported endogenous antioxidant enzymes (SOD, CAT, GPx).

This antioxidant activity contributes to:

- ✓ Cellular membrane protection
- ✓ Reduction of oxidative damage
- ✓ Support of metabolic resilience

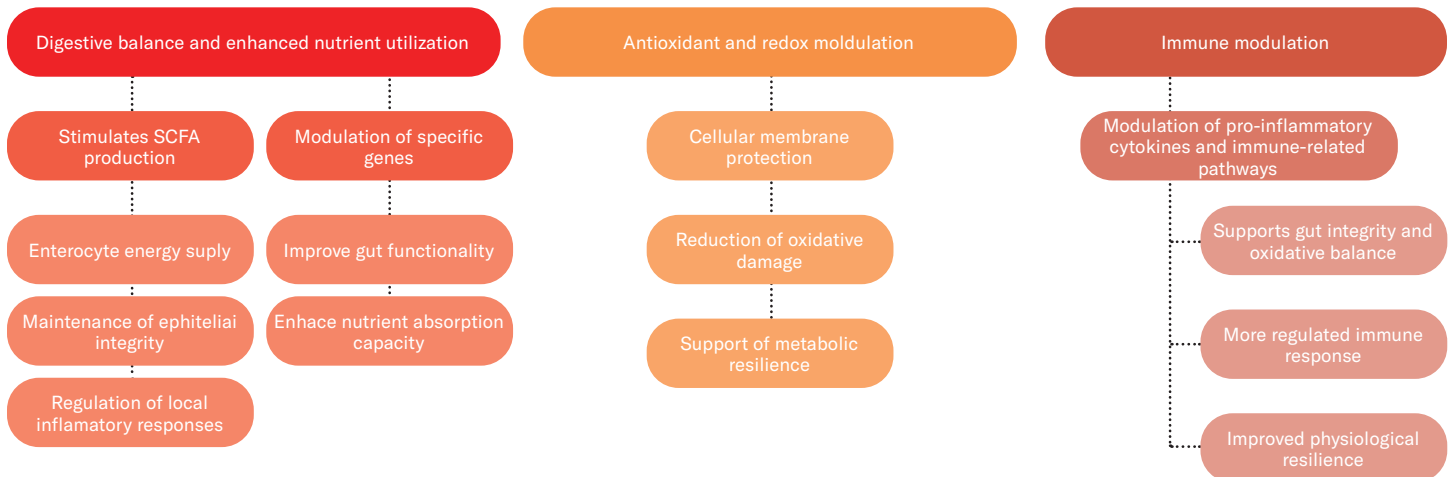
4. Immune and inflammatory balance

Citrus flavonoids have demonstrated modulation of pro-inflammatory cytokines and immune-related pathways in monogastric models.

By supporting gut integrity and oxidative balance, **Bioflavex®** contributes to a more regulated immune response and improved physiological resilience.

Target species: dogs, cats, horses.

Bioflavex® PETS: Triple action for gut, metabolic and immune health



Key Benefits

✓ Digestive balance

- Supports a healthy gut microbiota
- Promotes scfa production
- Contributes to intestinal barrier integrity

✓ Enhanced nutrient utilization

- Supports epithelial function
- Contributes to efficient nutrient absorption

✓ Antioxidant protection

- Helps reduce oxidative stress biomarkers
- Supports endogenous antioxidant defenses

✓ Immune support

- Contributes to balanced inflammatory responses
- Supports overall immune homeostasis

✓ Vitality and performance support

- In monogastric models, improved gut integrity and oxidative status were associated with enhanced feed efficiency and performance under standard and stress conditions. These mechanisms are directly relevant to supporting vitality in companion animals.

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An evolving market

Pet nutrition is increasingly moving towards natural, functional and science-backed solutions.

Pet owners are looking for products that support vitality, mobility and longevity, and wellbeing, especially for active and senior companion animals.

Bioflavex® PETS meets this demand with a differentiated proposition within the digestive health and antioxidant balance sector.

