

Viban BL-1

Vibrio adversely affects global aquaculture production and results in high economic losses and risks to global food security. Viban BL-1 was Jointly developed by GBW Group and Ocean University of China, contains a novel strain of *Bacillus subtilis* and its metabolites. Viban BL-1 has targeted activity against vibrio in aquaculture.

Function

- Inhibit the growth of vibrio, prevention and control vibrio associated disease like early mortality syndrome (EMS), white feces syndrome (WFS), and luminous disease.
- Reduce the mortality rate caused by vibrio infection.
- Enhance the immune function of aqua species.
- Reduce the use of antibiotics and other chemical agents.

Mode of action

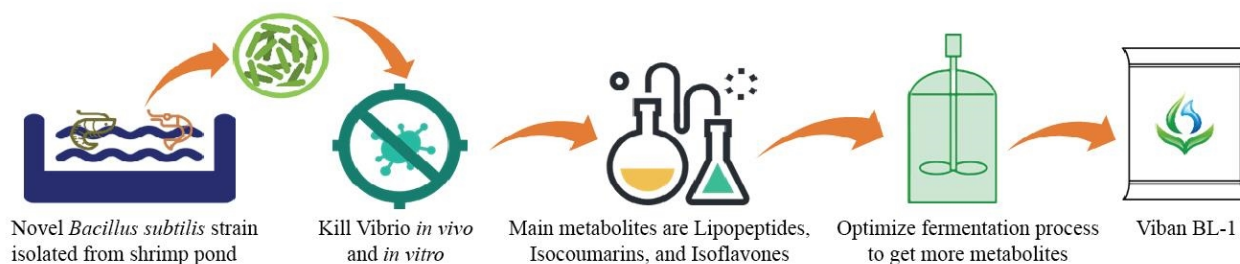
- Directly inhibit the growth of vibrio by antibacterial metabolites.
- Competitive exclusion, competition for nutrients and living space with vibrio in water column and gastrointestinal.
- Stimulate and enhance the immune responses.

Bacteriostatic activity of Viban BL-1

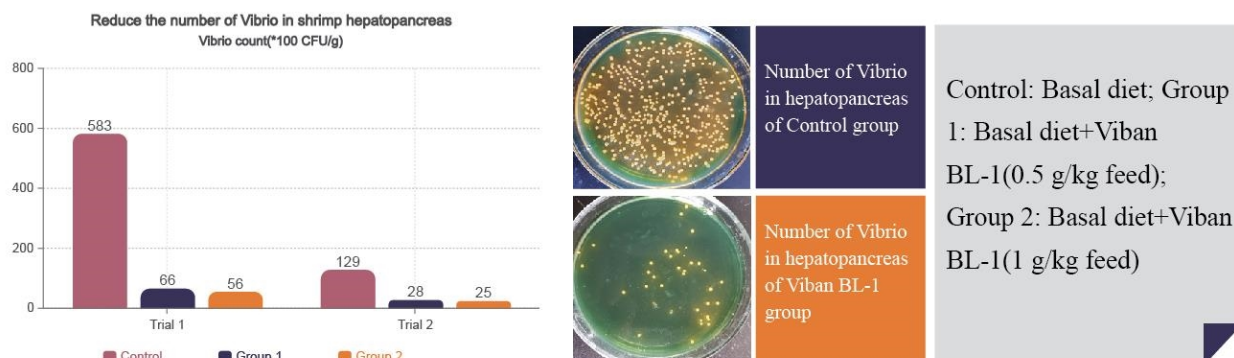
Pathogens	Inhibition zone diameter/mm	Antibacterial effect
<i>V. parahaemolyticus</i>	24	+++
<i>V. alginolyticus</i>	23	+++
<i>V. vulnificus</i>	22	+++
<i>V. harveyi</i>	18	++

Note: " + + + ": high sensitivity; " + + ": medium sensitivity; " + ": low sensitivity

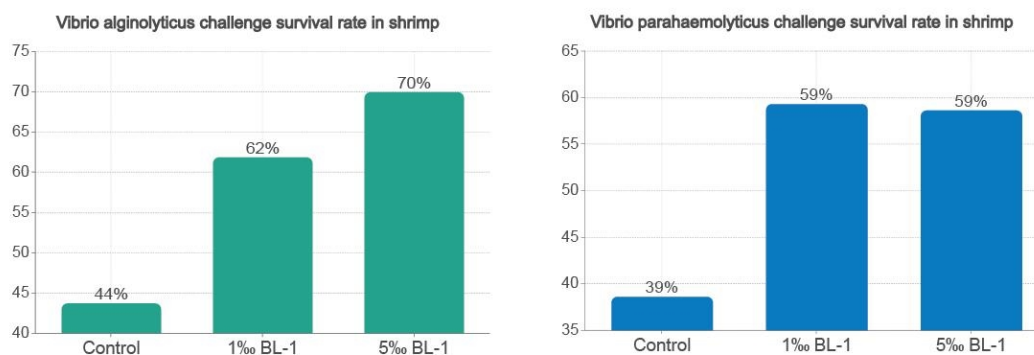
The development of Viban BL-1



Trial 1- Supplement Viban BL-1 significantly reduced the *Vibrio* count in shrimp hepatopancreas



Trial 2- Supplement Viban BL-1 significantly reduced the incidence of early mortality syndrome (EMS) caused by vibrio in shrimp



Control: Basal diet;
Group 1: Basal diet+Viban BL-1(1 g/kg feed); Group 2: Basal diet+Viban BL-1(5 g/kg feed)

Usage

©Splash in water column:

150 g/1000 m³ for routine prevention and control;
300-450 g/1000 m³ when vibrio count exceeding the standard (Vibrio>2000 CFU/ml water);
Therapeutic dose is 450-750 g/1000 m³ when vibrio outbreak (Vibrio>5000 CFU/ml water).

©Mix with feed:

0.5 g/kg feed (0.5‰) for routine prevention and control;
1 g/kg feed (1‰) when vibrio count exceeds the standard.

Package

1 kg/bag, 10 bags/carton; 25 kg/bag.

Storage and shelf life

The shelf life is 12 months when stored at shady, ventilated, dark and dry place in original package.

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