

# SoliPro<sup>®</sup> Coating & Granulating Powders

The SoliPro<sup>®</sup> Coating & Granulating micro-encapsulated powder series is to wrap the target core material, which is easy to absorb moisture, poor flavor, poor stability, low bioavailability, and difficult to process, in one or more natural polymer wall materials to form a package system similar to "Egg". The purpose of this is to improve fluidity, uniform particle size, isolate oxygen, slow release and control release.

In 2021, HSF was the first company obtained cGMP certification for functional solid micro-encapsulated powders in the industry.



## Traditional Products

- Easy moisture absorption
- Poor flavor
- Poor stability
- Low bioavailability
- High processing difficulty

## HSF Micro-encapsulated Solid Powder

- Sustained and controlled release
- Good fluidity and uniform particles
- High mechanical strength
- Stable performance
- Mask the taste

Type	Core materials	Applications
Moisture proof	L-carnitine series/Malic acid/ $\beta$ -alanine /GPC, etc.	Capsule, Tablet
Sustained release	Sorbic acid / Amino acids /HMB calcium, etc.	
Taste masking	L-methionine / vitamins B/ Plant extracts, etc.	Capsule, Tablet, Solid Beverage, Liquid Beverage
Instant	Amino acids / Creatine monohydrate / Resveratrol, etc.	

**Certifications** HSF SoliPro<sup>®</sup> Coating & Granulating micro-encapsulated powder series passed the certifications



## Advantages of Coating & Granulating Powder

### Control release, mask taste, improve stability

The release speed of the core material is controlled to achieve the effect of masking the taste. Reduce the contact and reaction between the core material and the external environment, to achieve the effect of protecting the core material, covering the odor and extending the shelf life.

### Reduce undesirable reactions, improve absorption efficiency

The core material is targeted and released slowly through embedding to reduce gastrointestinal adverse reactions and promote absorption. The groups of the shell have better biological compatibility, which can significantly improve the absorption efficiency of the core material.

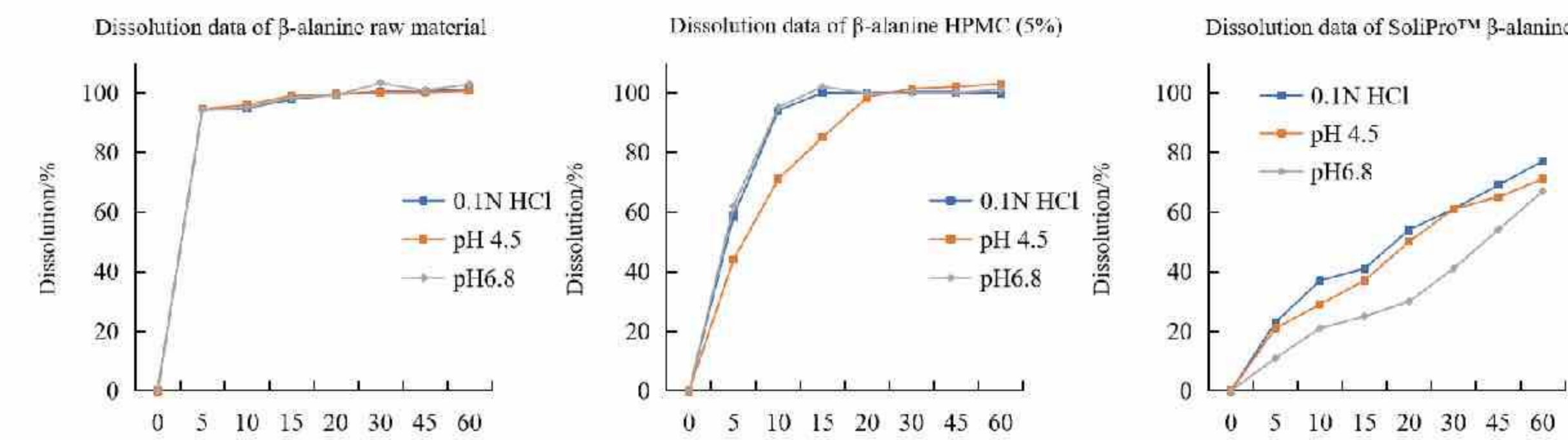
### Professional technical support, innovative solutions

Provide more than 500 problem-solving solutions and thousands of experiments every year, feedback quickly and propose reasonable solutions.

### Regulatory & Quality Support

With a complete quality and system personnel structure, a high-quality testing platform, HSF provides service in regulations, production, analysis and quality, and promotes products to different markets safely and reliably.

## Solution of sustained released $\beta$ -alanine



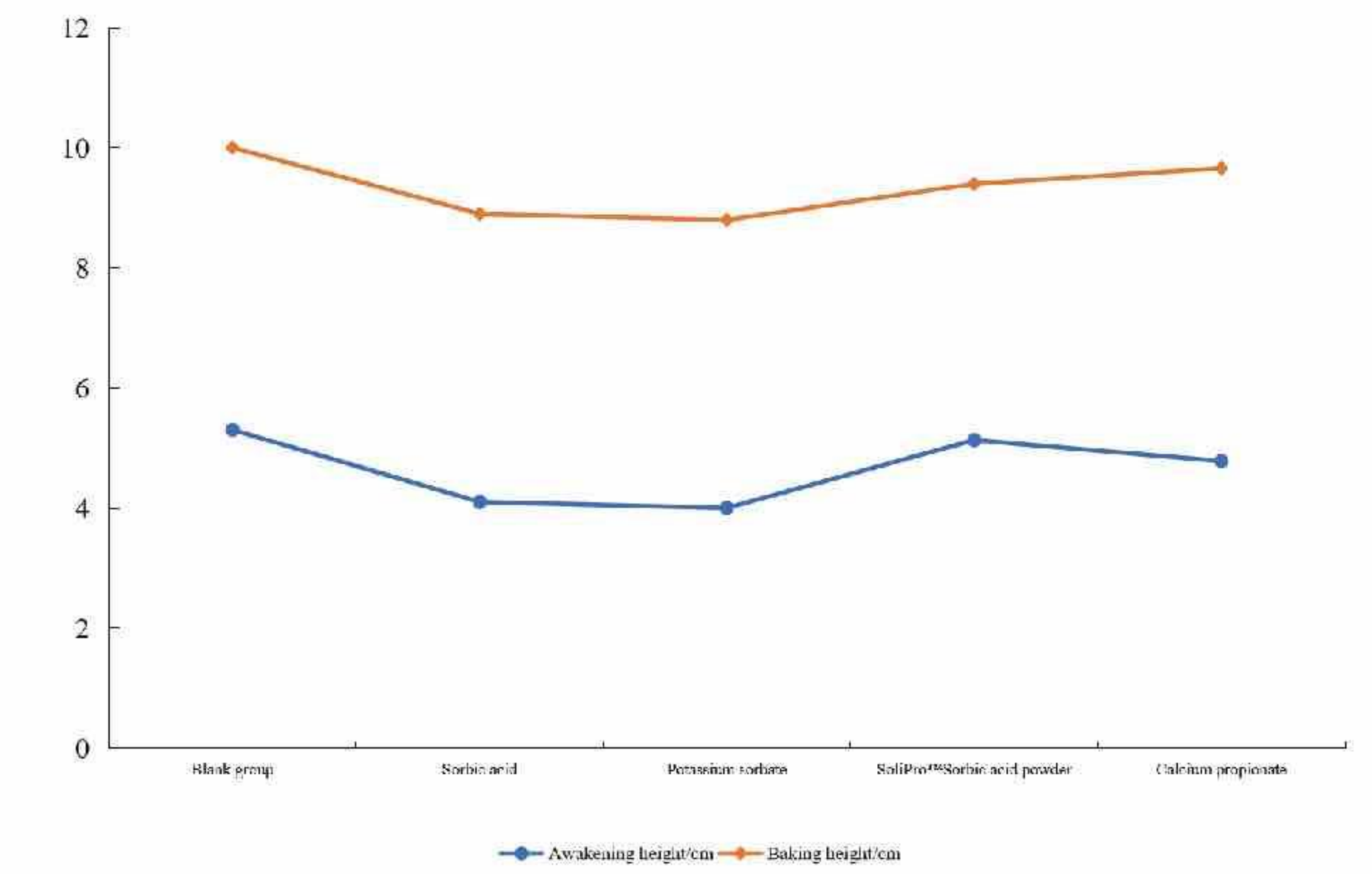
The dissolution test show that SoliPro<sup>®</sup>  $\beta$ -alanine can effectively sustain release, steadily releasing the active ingredient during the 1-hour dissolution test.

## Solution of Moisture-proof L-carnitine



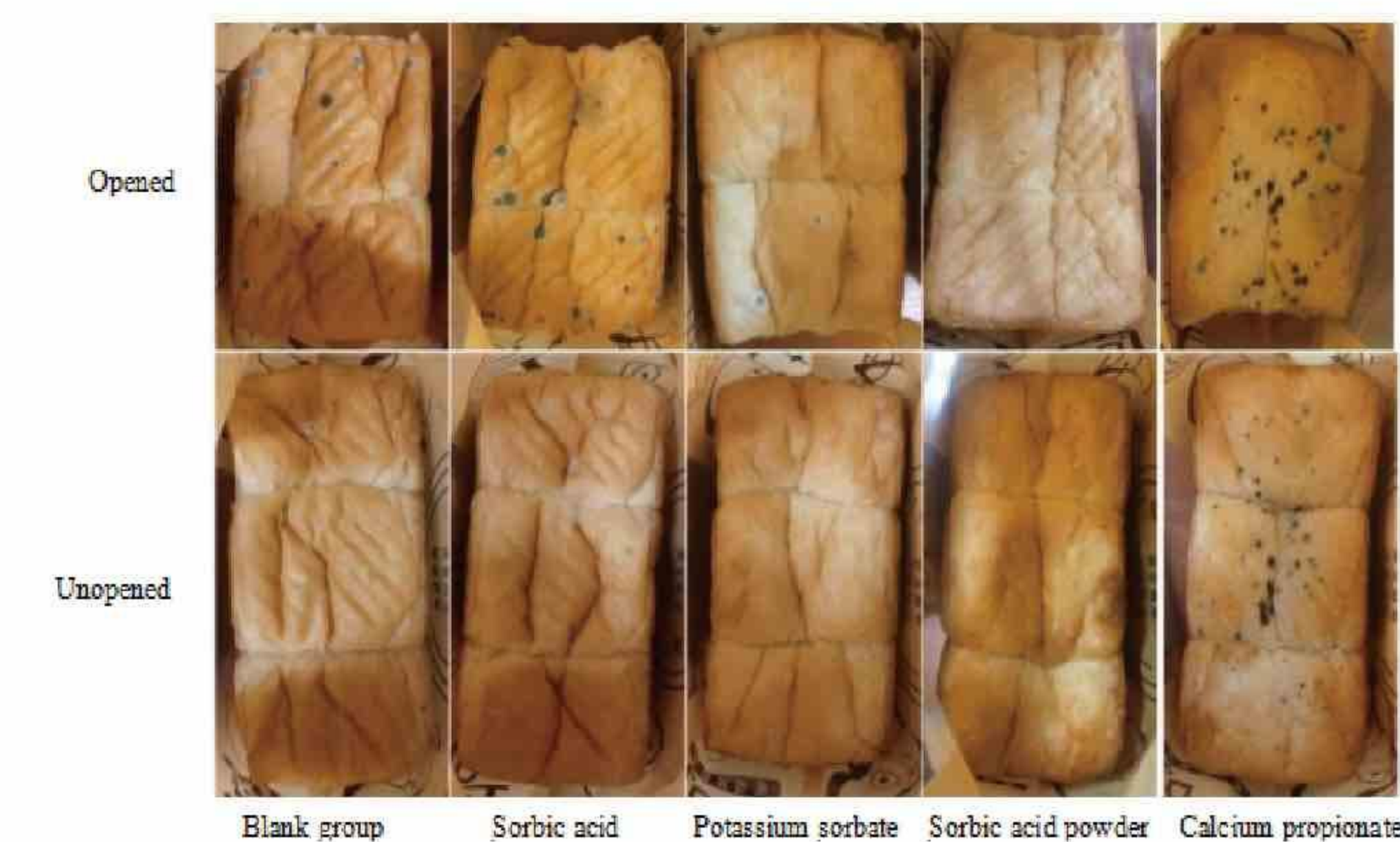
Comparison of 48h moisture-proof effect (Raw material: left Competitor: middle HSF SoliPro<sup>®</sup> Moisture-proof particles: right)  
L-carnitine remains stable at 25<sup>o</sup>C /50% for 48h after embedding, and has good moisture-proof effect.

## Solution of Sustained Released Sorbic acid



### Mildew time(day)

	Blank group	Sorbic acid	Potassium sorbate	SoliPro <sup>™</sup> Sorbic acid powder	Calcium propionate
Opened	4	6	7	8	6
Unopened	6	8	8	9	6



Adding SoliPro<sup>®</sup> sorbic acid powder directly to the dough greatly improves the shelf life of the bread, and has no impact on the bread's awakening efficiency or baking effect.