百 时 美
BestEnzymes

Ready To Use Instant Granules

Commonly Used Buffer Solution in Biology Experiment

Best Enzymes For Better Life

http://en.best-enzymes.com

Company Profile

Jiangsu Yugong Biotechnology Co., Ltd. (referred to as "Yugong Biotech") is dedicated to providing high-quality, cost-effective, user-friendly, and proprietary biomedical enzymes. The company is headquartered in the Lianyungang Area, China (Jiangsu) Pilot Free Trade Zone, and is constructed and managed in compliance with GMP standards. Its wholly-owned subsidiary, Jiangsu BestEnzymes Biotechnology Co., Ltd., is located in the Lianyungang Hi-Tech Industrial Development Zone and primarily engages in R&D and manufacturing of scientific research reagents.

Embodying the spirit of "Yugong Moving Mountains," Yugong Biotech has achieved large-scale production of restriction endonucleases for the first time in China. Currently, it possesses over 100 different products of products across 10 series, including restriction enzymes, PCR, isothermal amplification, reverse transcription, fluorescence quantitative PCR, DNA modification and cloning, in vitro transcription, and buffer solution instant granules. These products have been integrated into the supply chains of several leading biotechnology enterprises in China.

GMP Grade Yugong Biotech

Manufacturing Process

- The production process and the final products contain no animal-derived components.
- Antibiotics are not used during the production process.
- A well-defined and quality-assured cell bank is the source.
- Carefully selected and dedicated chromatography matrices are utilized.
- A rigorous system for confirmation, validation, and deviation/change man agement ensures the continuous stability of the production process.

Product Attributes

- Strict management of raw material suppliers and a quality traceability system.
- Based on stability studies of products with different specifications and packaging, ensure the ongoing efficacy of the products.
- Strict control over the production process to ensure product quality aligns with pharmacopeial and relevant regulatory requirements.

QA & Regulatory

- Certified under the ISO13485 Quality Management System.
- Utilizing validated and verified methods and equipment to ensure and document the production process.
- A comprehensive process for managing changes, deviations, and CAPAs (Corrective and Preventive Actions) to ensure continuous production improvement.

Regent Grade BestEnzymes Biotech

Manufacturing Process

- The production process or finished product may contain animal-derived components.
- Antibiotics may be used during the production process.
- Flexible production scale; the production process may change with variations in production scale.
- More customized options available.

Product Attributes

- Traceability information for raw materials and final products provided upon request.
- All products are available in multiple specifications, including custom specifications.
- All products undergo rigorous testing and supply with assessment criteria.

QA & Regulatory

- Certified under the ISO9001 Quality Management System.
- Complete production records for all products.
- Comprehensive change management and batch processing procedures.

CONTENTS

百 时 美
BestEnzymes

Instant Granules Introduction

Concept of Instant Granules

Standard Pre-made Products **AR/GR Grade Materials** **Streamlined Workflow**

Ensuring Data Accuracy **Enhanced Experimental Experience**

Instant Granules

Buffer solution is typically composed of a weak acid and its conjugate base, or a weak base and its conjugate acid, forming a solution that can resist changes in pH when certain substances are added. BestEnzymes' RTU (Ready-to-Use) Instant Granules, which present commonly used buffer solutions in the form of instant dissolving granules. Eliminate the tedious process of preparing buffer solutions and obtain high-quality and stable buffer solutions through simple operations!

Reliable quality

Quality by Design multi-level quality control，Industrial production，Ensuring Product Stability and Batch-to-Batch Consistency

Convenient to use

The commonly used buffer solutions in daily experimental work are available in the form of instant dissolvable granules, eliminating the cumbersome process of liquid preparation.

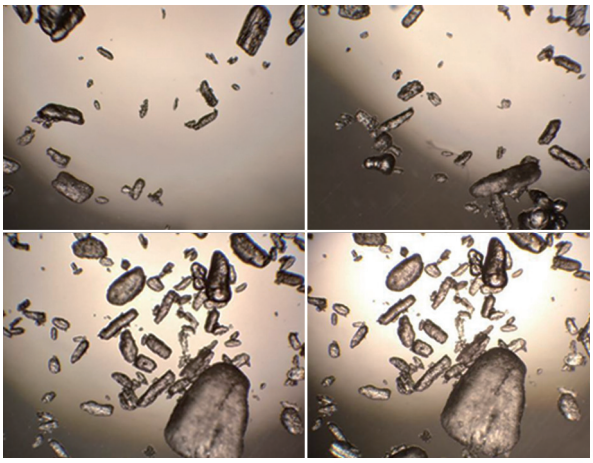
Complete variety

Multiple Varieties，Covers common electrophoresis and washing solution conditions for molecular and protein experiments

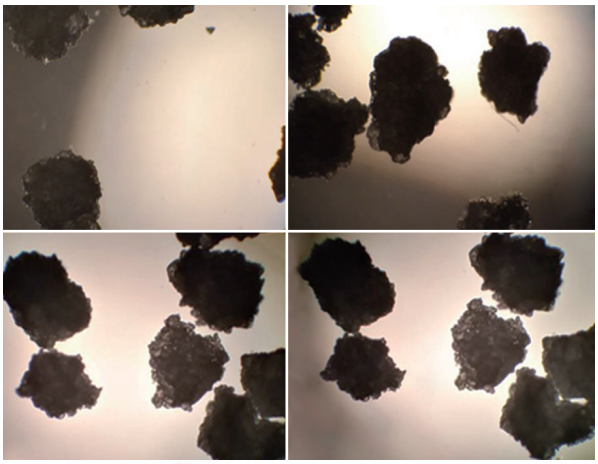
High cost-effectiveness

The price of instant dissolvable granules is not higher than the pharmaceutical cost of customers preparing the buffer solution themselves.

Why choose instant granules?



Powdered formulation after routine mixing.



Agglomerated instant granules

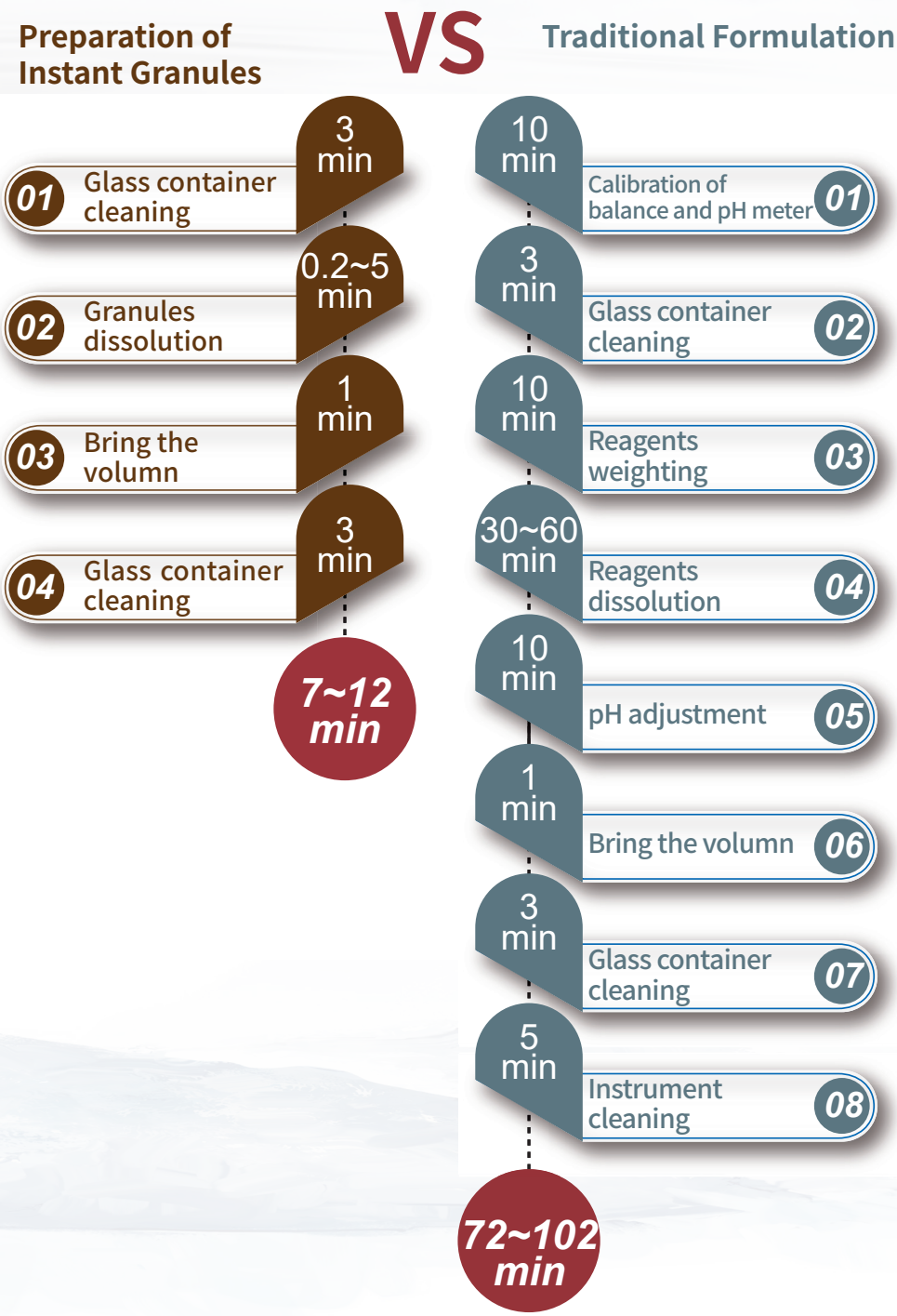
Stronger homogeneity:

Through the process of granulation, the powder is thoroughly mixed and formed into small instant granules that have consistent composition. In contrast, conventional powders may have variations in component composition due to differences in particle size and density. Therefore, instant granules have stronger homogeneity.

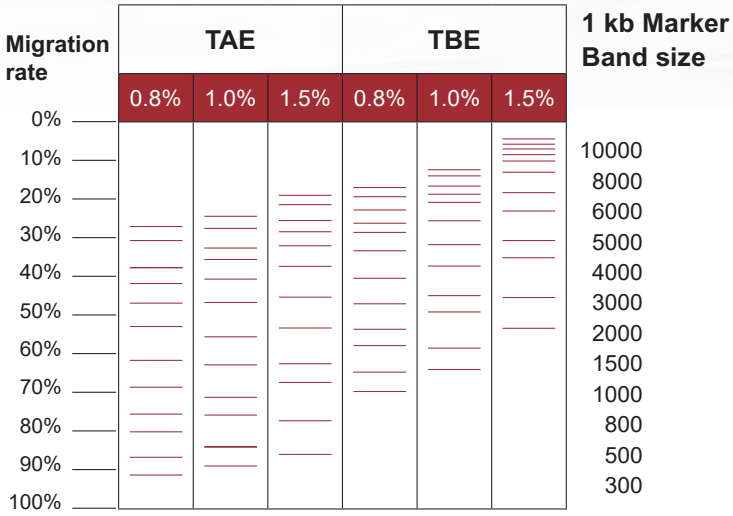
Faster Dissolution Rate:

When powdered substances are dissolved, they tend to clump together, forming a high-concentration liquid layer that encapsulates the powder granules, impeding their dissolution. However, after being processed into instant granules, each granule contains numerous pores or channels, leading to an increased surface area and significantly enhancing the dissolution rate. This improved surface area-to-volume ratio allows for faster and more efficient dissolution of the instant dissolve granules.

Convenient to Use, Significantly Saves Labor and Time Costs



Selection in different scenarios of nucleic acid electrophoresis.



Electrophoresis conditions: TAE/TBE—6 V/cm, 40 min; Rapid Running Buffer—15 V/cm, 15 min

- **It is considered that TAE buffer provides better separation for large DNA fragments, while TBE buffer is more effective in separating small DNA fragments.**
- **Using Rapid Running Buffer can save over 50% of electrophoresis time.**

Protein Electrophoresis Buffer Selection Guide

① Bis-Tris Gel System

- **The MES buffer is suitable for low to medium molecular weight proteins (6~260 kDa).**
- **The MOPS buffer is suitable for medium to high molecular weight proteins (14~260 kDa).**
- **The HEPES buffer exhibits more uniform migration and has a wide range of molecular weights.**
- **The HEPES buffer without SDS is also provided for native gels.**

② Tris-Glycine Gel System

- **The Tris-Glycine-SDS (TGS) buffer is suitable for proteins with a wide range of molecular weights (6~400 kDa).**
- **The TG buffer, which is a version of the TGS buffer without SDS, is suitable for native gels.**

Nucleic Acid Research

TAE

REF No.	Product Name	Specs
CP17201M	TAE	100 pouches
CP17201-50 L	TAE	1 bottle

⚠ Note: pH is 8.3±0.1@25℃ when made to 1× solution.

Description

TAE appears as white instant granules. Each pouch makes 1 L of 1× TAE solution conveniently with a simple procedure. The main components of TAE buffer are Tris-acetate and EDTA-2Na. The final concentration of the 1× solution is 40 mM Tris-acetate and 1 mM EDTA-2Na.

TAE buffer is a nucleic acid electrophoresis buffer widely used in biology labs. It is mainly used in agarose gel electrophoresis of DNA. The migration of linear dsDNA is fast with TAE buffer. When separating DNA molecules bigger than 13 kb, TAE buffer is usually recommended. TAE buffer is suitable for recovering DNA from the gel after electrophoresis. Because the buffering capacity is relatively small, long time electrophoresis (e.g. overnight) is not recommended.

TBE

REF No.	Product Name	Specs
CP17202M	TBE	50 pouches

⚠ Note: pH is 8.35±0.15@25℃ when made to 1× solution.

Description

TBE appears as white instant granules. Each pouch makes 1 L of 1× TBE solution conveniently with a simple procedure. TBE is composed of Tris, boric acid and EDTA. The final concentration of the 1× solution is 89 mM Tris, 89 mM boric acid and 2 mM EDTA.

TBE buffer is a nucleic acid electrophoresis buffer commonly used in biology labs. It is mainly used in agarose gel electrophoresis of DNA. It has a good buffering capacity and shows good results when separating DNA fragments smaller than 1 kb. It is also suitable for long-time electrophoresis. TBE buffer has a high electroosmosis effect with agarose gel and forms tetrahydroxy borate complexes with the agarose through nonconvalent binding, which impairs the DNA recovery rate. Thus, TBE buffer is not recommended for recovering DNA from agarose gel after electrophoresis.

Tris-EDTA (pH 8.0)

REF No.	Product Name	Specs
CP23201M	Tris-EDTA (pH 8.0)	100 pouches

⚠ Note: pH is 8.0±0.1@25℃ when made to 1× solution.

Description

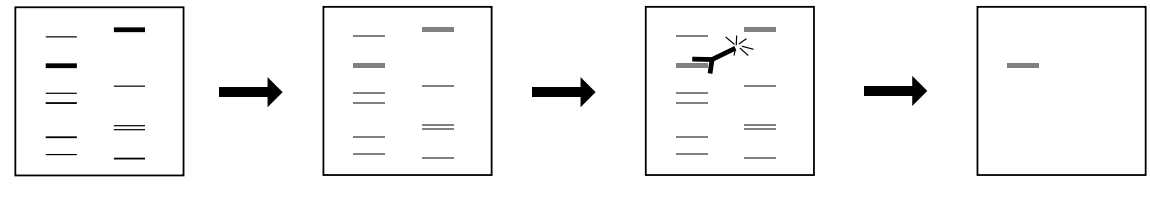
Tris-EDTA (TE) appears as white instant granules. Each pouch makes 1 L of 1x TE solution conveniently with a simple procedure. 1× TE buffer contains 10 mM Tris-HCl and 1 mM EDTA, with pH 8.0 at 25℃ .

TE buffer is commonly used as a solvent or preservative to store and dilute DNA or RNA.

Protein Research

Buffer Solution Instant Granules

Instant granules for all processes of Western Blot



1	2	3	4	5	6	7
Sample preparation	Electrophoresis Separation	Transferring	Blocking	Antibody incubation	Rinsing	Imaging
PBS	Tris-Glycine-SDS	Transfer Buffer (Semi Dry)	Rapid Blocking Buffer	TBS-T	TBS-T	
TBS	Tris-HEPES-SDS	Tris-Glycine		PBS-T	PBS-T	
	Tris-Glycine					
	Tris-MOPS-SDS					
	Tris-MES-SDS					

Tris-MES-SDS

REF No.	Product Name	Specs
CP17204M	Tris-MES-SDS	50 pouches

⚠ Note: pH is 7.0±0.2@25℃ when made to 1× solution.

Description

Tris-MES-SDS (hereinafter referred to as MES) appears as white to off-white instant granules. Each pouch makes 1 L of 1× MES solution conveniently with a simple procedure. MES is composed of Tris, MES, EDTA and SDS. 1× MES contains 50 mM Tris, 50 mM MES, 1 mM EDTA and 0.1% SDS.

MES buffer is a protein gel electrophoresis buffer commonly used in biology labs that is suitable for normal SDS-PAGE of proteins. It is especially good for SDS-PAGE with the Bis-Tris buffer system. With Bis-Tris based protein gels, it provides good electrophoresis results of small to medium molecular weight proteins.

Tris-MOPS-SDS

REF No.	Product Name	Specs
CP17205M	Tris-MOPS-SDS	50 pouches

⚠ Note: pH is 7.7±0.2@25℃ when made to 1× solution

Description

Tris-MOPS-SDS (hereinafter referred to as MOPS) appears as white to pale yellow instant granules. Each pouch makes 1 L of 1× MOPS solution conveniently with a simple procedure. MOPS is composed of Tris, MOPS, EDTA and SDS. 1×MOPS contains 50 mM Tris, 50 mM MOPS, 1 mM EDTA and 0.1% SDS.

MOPS buffer is a protein gel electrophoresis buffer commonly used in biology labs that is suitable for normal SDS-PAGE of proteins. It is especially good for PAGE with the Bis-Tris buffer system. With Bis-Tris based protein gels, it provides good electrophoresis results of medium to large molecular weight proteins.

Tris-Glycine-SDS

REF No.	Product Name	Specs
CP17206M	Tris-Glycine-SDS	50 pouches
CP17206-50 L	Tris-Glycine-SDS	1 bottle

⚠ Note: pH is 8.3±0.2@25℃ when made to 1× solution.

Description

Tris-Glycine-SDS (hereinafter referred to as TGS) appears as white to pale yellow instant granules. Each pouch makes 1 L of 1× TGS solution conveniently with a simple procedure. TGS is composed of Tris, Glycine and SDS. 1× TGS contains 25 mM Tris, 192 mM glycine and 0.1% SDS. TGS buffer is a commonly used SDS-PAGE buffer.

Tris-Glycine

REF No.	Product Name	Specs
CP21202M	Tris-Glycine	50 pouches

⚠ Note: pH is 8.3±0.2@25℃ when made to 1× solution.

Description

Tris- Glycine(hereinafter referred to as TG) appears as white to pale yellow instant granules . Each pouch makes 1 L of 1 × TG , which is easy to operate and easy to use. The main components of TG are Tris and Glycine. The concentration of Tris in 1 × TG is 25 mM Tris and the concentration of glycine in 1 × TG is 192 mM.

① TG buffer is commonly used for rapid western blotting after being configured in 20% ethanol for 1×, mainly for wet turning.

② For the preparation of non-denaturing protein polyacrylamide gel electrophoresis buffer.

Tris-HEPES-SDS

REF No.	Product Name	Specs
CP21204M	Tris-HEPES-SDS	100×0.5 L

⚠ Note: pH is 7.7±0.2@25℃ when made to 1× solution.

Description

Tris-HEPES-SDS (hereinafter referred to as HEPES) appears as white to off-white instant granules. Each pouch of HEPES instant granules can produce 500 ml 1× HEPES buffer, which is easy to operate and easy to use. The main components of HEPES are Tris, HEPES, EDTA and SDS. In 1× HEPES buffer the concentration of Tris is 50 mM, the concentration of HEPES is 50 mM, the concentration of EDTA is 2 mM, and the content of SDS is 0.1%.

HEPES buffer is a commonly used protein gel electrophoresis buffer in biological experiments. It is often used in biochemical diagnostic kits, DNA/RNA extraction kits and PCR diagnostic kits. It has no toxic effect on cells.

PBS-T

REF No.	Product Name	Specs
CP17207M	PBS-T	100 pouches
CP17207-50 L	PBS-T	1 bottle

⚠ Note: pH is 7.4±0.2@25℃ when made to 1× solution.

Description

PBS-T appears as white to off-white instant granules. Each pouch makes 1 L of 1× PBS-T solution conveniently with a simple procedure. PBS-T is composed of NaCl, KCl, phosphate and Tween-20. 1× PBS-T contains 137 mM NaCl, 2.7 mM KCl, 10 mM phosphate and 0.05% Tween-20.

PBS-T contains non-ionic detergent Tween-20. It is widely used in immune experiments such as ELISA and WB. It is ideal for substrate washing, antibody dilution and blocking solution preparation.

PBS

REF No.	Product Name	Specs
CP17208M	100×1 L	100×1 L
CP17208-50 L	1 bottle	1 bottle
CP21211M	50×2 L	50×2 L

⚠ Note: pH is 7.4±0.2@25℃ when made to 1× solution.

Description

PBS appears as white instant granules. Each pouch makes 1 L of 1× PBS solution conveniently with a simple procedure. PBS is composed of NaCl, KCl and phosphate. 1× PBS contains 137 mM NaCl, 2.7 mM KCl and 10 mM phosphate.

PBS buffer is the most widely used buffer in biology labs. It is used in immunoassays, microbial experiments and protein biochemical experiments.The PBS buffer prepared with PBS instant granules can be used in cell culture, washing and other related experiments after being treated with 0.22 μm sterilization filter.

TBS-T

REF No.	Product Name	Specs
CP17209M	TBS-T	100 pouches
CP17209-50 L	TBS-T	1 bottle

⚠ Note: pH is 7.4±0.15@25℃ when made to 1× solution.

Description

TBS-T appears as white to off-white instant granules. Each pouch makes 1 L of 1× TBS-T solution conveniently with a simple procedure. TBS-T is composed of NaCl, KCl, Tris and Tween-20. 1× TBS-T contains 137 mM NaCl, 2.7 mM KCl, 25 mM Tris and 0.05% Tween-20.

TBS-T buffer is a widely used buffer in biology labs. It is used in immunohistochemistry, in situ hybridizations, enzyme-linked immunoassays and western blot. It is ideal for substrate washing, antibody dilution and blocking solution preparation.

TBS

REF No.	Product Name	Specs
CP17210M	TBS	100 pouches
CP17210-50 L	TBS	1 bottle

⚠ Note: pH is 7.4±0.15@25℃ when made to 1× solution.

Description

TBS appears as white to off-white instant granules. Each pouch makes 1 L of 1× TBS solution conveniently with a simple procedure. TBS is composed of NaCl, KCl and Tris. 1× TBS contains 137 mM NaCl, 2.7 mM KCl and 25 mM Tris.

TBS buffer is a widely used isotonic buffer in biology labs. It is used in immunohistochemistry, in situ hybridizations, enzyme-linked immunoassays and western blot. It is ideal for substrate washing, antibody dilution and blocking solution preparation.

Rapid Blocking Buffer (TBS-T)

REF No.	Product Name	Specs
CP20203L	Rapid Blocking Buffer (TBS-T)	20 pouches

Description

Rapid Blocking Buffer(TBS-T) appears as off-white to pale yellow instant granules . Each pouch can prepare 100 ml blocking solution, which is easy to operate. The main component is the fish gelatin protein component that has been carefully processed, and the protein content is 5% after being formulated into 1× working solution. This product is used in the antibody blocking step of Western Blot and ELISA. The TBS-T buffer (containing Tween20 detergent) version is provided.

The fish gelatin protein used in Rapid Blocking Buffer (TBS-T) is compatible with most proteins, providing excellent reaction performance and compatibility. It can be blocked within 15 minutes, shortening the user' s experimental time. It has been premixed with TBS-T for ease of use. In many Western Blot detection reactions, the presence of detergent Tween20 improves the efficiency of blocking.

Transfer Buffer (Semi Dry)

REF No.	Product Name	Specs
CP20204M	**Transfer Buffer (Semi Dry)**	100 pouches

Description

Transfer Buffer(Semi Dry) appears as white to off-white instant granules . Each pouch of Transfer Buffer (Semi Dry) instant granules can produce 1 L 1× Transfer Buffer (Semi Dry) buffer, which is easy to operate and easy to use. The main components of Transfer Buffer (Semi Dry) are 48 mM Tris, 39 mM glycine and 0.04% SDS.

Transfer Buffer(Semi Dry) is suitable for Western Blot semi-dry electrophoresis transfer membrane. Pre-mixed with SDS can be applied to large molecular weight proteins or strong hydrophobic proteins.

SDS dust-free Granules

REF No.	Product Name	Specs
CP21209S	SDS dust-free Granules	250 g
CP21209M	SDS dust-free Granules	1000 g

Description

Sodium lauryl sulfate is an organic substance that dissolves in water and has decontamination, emulsification and excellent foaming power, and can be used for protein denaturation. It is a long-chain aliphatic hydrocarbon group with negatively charged sulfates, making it a natural amphoteric detergent. In the DNA extraction process, proteins can be denatured and separated from DNA, and are often used for biochemical and immunoassays. Conventional SDS is powdery, small particle size, can not be isolated by ordinary dust masks, easy to adsorb on mucous membranes, upper respiratory tract, eyes and skin, has irritating effect, can cause respiratory allergic reactions. And Yugong has optimized the process and made it into dust-free particles, the high probability of reducing the damage caused by the powder to the human body.

PRODUCT LISTING

Classification	REF No.	Name	Specs
Nucleic Acid Electrophoresis	CP17201M	TAE	100 pouches
	CP17201-50 L	TAE	1 bottle
	CP17202M	TBE	50 pouches
	CP23201M	Tris-EDTA (pH 8.0)	100 pouches
Protein Electrophoresis	CP17204M	Tris-MES-SDS	50 pouches
	CP17205M	Tris-MOPS-SDS	50 pouches
	CP17206M	Tris-Glycine-SDS	50 pouches
	CP17206-50 L	Tris-Glycine-SDS	1 bottle
	CP21204M	Tris-HEPES-SDS	100×0.5 L
Immunoblotting	CP17207M	PBS-T	100 pouches
	CP17207-50 L	PBS-T	1 bottle
	CP17208M	PBS	100×1 L
	CP17208-50 L	PBS	1 bottle
	CP17209M	TBS-T	100 pouches
	CP17209-50 L	TBS-T	1 bottle
	CP17210M	TBS	100 pouches
	CP17210-50 L	TBS	1 bottle
	CP20203L	Rapid Blocking Buffer (TBS-T)	20 pouches
	CP20204M	Transfer Buffer(Semi Dry)	100 pouches
	CP21202M	Tris-Glycine	50 pouches
	CP21211M	PBS	50×2 L
Dust-free Granules	CP21209S	SDS dust-free Granules	250 g
	CP21209M	SDS dust-free Granules	1000 g

Welcome to negotiate custom specifications or formulations.

GMP ISO 13485

BestEnzymes Biotech Co., Ltd.

Add: No.17 Huaguoshan Avenue, Lianyungang City, Jiangsu Province, China
Tel: +86-18861343080 · Tina@best-enzymes.com · http://en.best-enzymes.com

ver. 202603