

ZiXpress® Bacteria Genomic DNA Extraction Kit



【Cat. No. and Packaging Specifications】

312C021A - Pre-filled Reagents for 96 Tests/Box (8 Tests/Plate × 12 Plates)

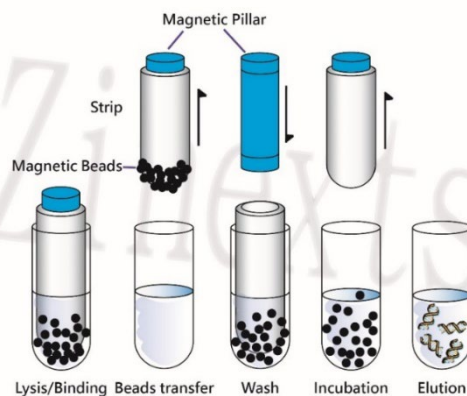
312C021B - Pre-filled Reagents for 192 Tests/Box (16 Tests/Plate × 12 Plates)

312C021C - Non Pre-filled Reagents for 960 Tests/Box (16 Tests/Plate × 60 Plates)

【Introduction - ZiXpress® Magnetic Pillar Technology】

Zinexts Life Science is specialized in developing advanced, efficient and reliable technologies in nucleic acid purification, enabling successful delivery of extraction results from varied sample types. The ZiXpress® Nucleic Acid Purification Platform utilizes permanent magnet rods to collect magnetic beads from the solution and release the beads into wells containing reagent for the next step of extraction.

The purification process contains four basic steps: sample lysis, nucleic acid binding, washing and elution. The effectiveness of bead collection and transfer ensures superior washing and elution efficiency.



Product Name	ZiXpress® Bacteria Genomic DNA Extraction Kit
Catalogue Number	312C021A, 312C021B, 312C021C
Applicable Instrument Model	ZiXpress® 32 & ZiXpress® 64 (First & Second generation) Instrument
Displayed Protocol Name on The Instrument	Bacteria
Processing Time	ZiXpress® 32 series 42 minutes ZiXpress® 64 series 42 minutes

【Intended Use】

The product purpose is to extract and purify genomic DNA from bacterial samples. The elution product has high purity and complete fragments. The nucleic acids purified by using the ZiXpress® assortment are suitable for a variety of biological samples, which are essential and broadly used in many molecular biology downstream applications such as, genetic screening, sequencing, food safety, forensic, etc.

【Kit Content】

Catalogue Number: 312C021A, 312C021B

	ZP02202-096	ZP02202-192
Components	Quantity	
Reagent 96 Plate (Pre-filled)	(8 x 12) 96	(16 x 12) 192
8-Tip Comb	(8 x 12) 96	(16 x 12) 192
Binding Buffer 5	30 ml x 1	60 ml x 1
BL7 Buffer	30 ml x 1	60 ml x 1
Proteinase K (10 mg/ml)	1 ml x 2	1 ml x 4

Catalogue Number: 312C021C

Components	Quantity
2.2 ml Deepwell 96 plate (Non Pre-filled)	(16 x 12 x 5) 960
8-Tip Comb	(16 x 12 x 5) 960
Proteinase K (10 mg/ml)	20 ml x 1
Magnetic Beads B	40 ml x 1
Lysis Buffer A	400 ml x 1
Wash Buffer Z1	900 ml x 1
Wash Buffer A	900 ml x 1
Wash Buffer B	900 ml x 1
Elution Buffer	150 ml x 1
BL7 Buffer	300 ml x 1
Binding Buffer 5	300 ml x 1

【 Reagent Plate Content 】

Well No.	Components	Volume
1/7	Lysis Buffer A	400 μ l
2/8	Wash Buffer Z1	900 μ l
3/9	Wash Buffer A and Magnetic Beads	940 μ l
4/10	Wash Buffer B	900 μ l
5/11	Empty	-
6/12	Elution Buffer	150 μ l

【 Storage & Stability 】

Reagent Plate and Accessory Consumables should be stored at room temperature. **Do not** freeze the Reagent Plate. Proteinase K is suggested to be stored at 2-8°C. Zinexts Life Science guarantee that all components are stable for 18 months when stored properly.

【 Sample Requirements 】

- a. Sample type: Bacterial samples, etc.
- b. Sample storage: Fresh or stored at 2-8°C for up to 24 hours. For long-term storage, freezing at -20°C is recommended.
- c. Sample volume: 200 μ l

【 Elution Requirements 】

- a. Elution volume: 150 μ l
- b. Store the purified nucleic acid at 4°C (short-term, less than 10 days) or aliquot and store at -70°C (long-term) before performing the downstream analysis.

【 Operation Protocol 】

1. Sample Preparation

- a. The BL7 Buffer is specialized for bacterial cell wall lysis, use it to resuspend the bacterial pellet before extraction.
- b. The table below describes the recommendations in bacteria collection from different kinds of sample type:

Sample type	Procedure
For bacterial suspension culture	<ol style="list-style-type: none"> 1. Transfer 1-3 ml bacterial culture media to a 1.5 ml tube and centrifuge at 10000 rpm for 1 min. (For gram-negative or -positive bacteria, please refer to the recommended processing in table c to follow continuous steps.) 2. Discard the supernatant and resuspend the pellet by 220 µl BL7 Buffer.
For bacterial plate culture	<ol style="list-style-type: none"> 1. Collect 1-3 bacterial colony from culture plate with an inoculation loop. 2. Add into 220 µl BL7 buffer and mix well.
For viscous samples	<ol style="list-style-type: none"> 1. Prepare a fresh 0.75% DTT stock solution for liquefaction. 2. Add DTT solution in 0.5-1 ml sample (final concentration: 0.15%). 3. Incubate the sample until it is dissolved completely. 4. Centrifuge at 12000 rpm for 10 min. 5. Discard the supernatant. 6. Add 1 ml PBS and mix gently. 7. Centrifuge at 12000 rpm for 10 min. 8. Discard the supernatant. 9. Resuspend the pellet with 220 µl BL7 Buffer.
For swab samples	<ol style="list-style-type: none"> 1. Collect the samples in 1-2 ml PBS. 2. Incubate for 10-30 min at room temperature. 3. Centrifuge at 7500 rpm for 10 min. 4. Discard the supernatant. 5. Resuspend the pellet with 220 µl BL7 Buffer.

c. The table below describes the recommendations in processing after collected the samples:

Sample type	Procedure
For gram-negative bacteria	<ol style="list-style-type: none"> 1. Discard the supernatant and resuspend the pellet by adding 220 µl BL7 Buffer. 2. Add 20 µl Proteinase K and mix well. 3. Transfer 200 µl sample to Well 1 and Well 7.
For gram-positive bacteria	<ol style="list-style-type: none"> 1. Discard the supernatant, add 90 µl lysozyme buffer (10 mg/ml) and resuspend the pellet by vortexing. 2. Then, add 110 µl BL7 Buffer and incubate at 37°C at least 5 mins or until the suspension becomes clear.

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| | <ol style="list-style-type: none">3. Add 20 μl Proteinase K and mix well.4. Incubate at 50~56 °C for a minimum of 30 min* (or more).
*The incubation time depend on species of bacteria.5. Transfer 200 μl sample to Well 1 and Well 7. |
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2. Consumables Preparation

- a. Turn on the power switch and wait for the screen to show the Home Page.
- b. Set up the 8-Tip Combs on the 8-Tip Comb track, and make sure the 8-Tip Combs enter the track completely.

3. Reagents Plate Preparation

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- a. Remove the aluminum foil sealing membrane on the reagent plate carefully to avoid liquid splashing. Add 200 μ l bacterial sample to Well 1 and Well 7, which contains the pre-filled lysis buffer. Mix the sample with the lysis buffer 3-5 times by pipetting gently.
- b. Add 20 μ l Proteinase K to Well 1 and Well 7 and mix 3 times by pipetting gently.
- c. Add 300 μ l Binding Buffer 5 to Well 1 and Well 7.

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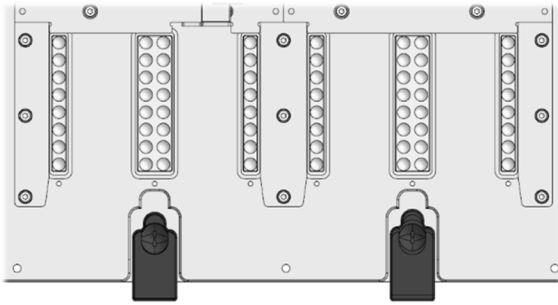
- a. Load the specified buffer into specified wells of the 96 Plate according to Reagent Plate Content listed above.
- b. Add 200 μ l bacterial sample to Well 1 and Well 7, which contains the pre-filled lysis buffer. Mix the sample with the lysis buffer 3-5 times by pipetting gently.
- c. Add 20 μ l Proteinase K to Well 1 and Well 7 and mix 3 times by pipetting gently.
- d. Add 300 μ l Binding Buffer 5 to Well 1 and Well 7.

4. Automated Extraction Setup

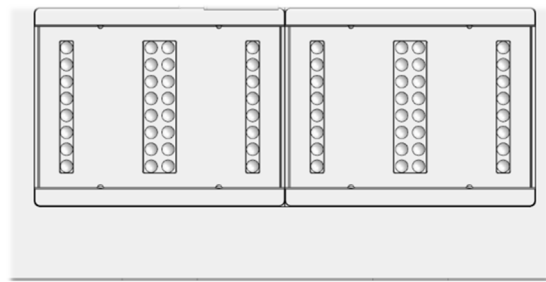
- a. (1) Put the reagent plate on the plate track and release heater locks. (For first generation)
(2) Insert the reagent plate into the plate track and ensure it fit well. (For second generation)

(Note: Please check the direction of “recognition corner” on the Reagent 96 plate, it must be on the left.)

First generation:



Second generation:



- b. Close the instrument door.
- c. Protocol Selection: Select the appropriate protocol on the instrument or edit a new protocol on the blank space. (Page1 to Page 12)

Bacteria process as below: (Process time: 42 minutes)

Step No.	Well	Name	Standby (min)	Mix (min)	Volume (µl)	Mix Speed	Mag (sec)	Temp (°C)
1	3	Transfer	0	1	900	3	60	--
2	1	Lysis	0	20	940	2	40	75
3	2	WASH 1	0	3	900	3	40	--
4	3	WASH 2	0	2	900	3	40	--
5	4	WASH 3	0	0	900	3	40	--
6	6	ELUTE	5	5	120	3	60	80
7	4	WASTE	0	1	900	3	0	--

- d. Press “▶” to start the process.
- e. After the experiment program is finished, transfer the extracted products located at Well 6 and Well 12 into nuclease-free tubes. Store the purified nucleic acid at 4°C (short-term, less than 10 days) or aliquot and store at -70°C (long-term) before performing the downstream analysis.

【Precautions】

Please read the instructions before using the kit:

- a. When working with chemicals or clinical samples, always wear a suitable lab coat, disposable gloves, and protective goggles. All of the experiment supplies, such as pipettes, tubes, tips must be autoclaved. Operator should wear gloves and masks.
- b. Before using, the ZiXpress® Nucleic Acid Purification Platform should be disinfected with the internal UV light program. We recommend cleaning the instrument with 75% ethanol and disinfecting it by performing the UV light program in the instrument.
- c. Proteinase K is suggested to be stored at 2-8°C.
- d. After the experiment, all samples and reagents must be properly disposed.
- e. Magnetic Beads may occasionally appear in the elution buffer after extraction. If so, please carefully avoid the magnetic beads while transferring the extracted elution product.

Please report any serious incident occurred in relation to the device to your local representative/ agent or the manufacturer, and to the competent authority of your country/state.

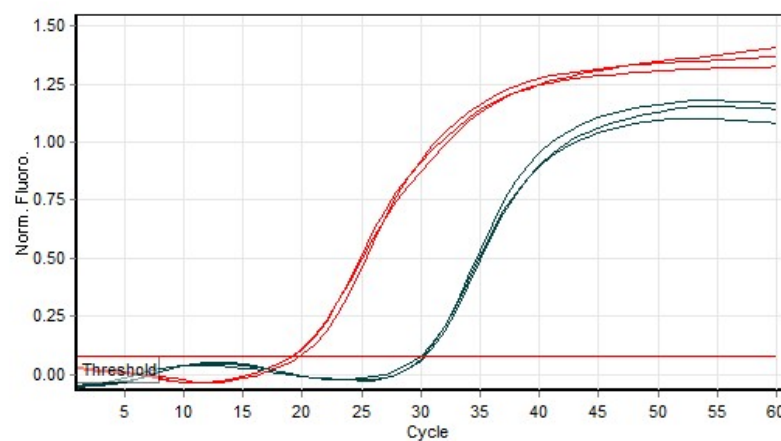
【Starting Material】

Sample Type	Bacteria Pellet/Bacterial colony/Urine/Cell-free body fluids/ Liquid transport media
Target Nucleic Acid	Genomic DNA
Sample Volume	200 µl *Up to 10 ⁹ bacteria cell / 1-3 colonies. **If the sample is less than 200 µl, please add 1X PBS to fill up to 200 µl.
Controls/Optional Internal Control	Add controls/internal control in the extraction procedure if needed for the downstream analysis.
Elution Volume	150 µl

【Expected Purity and Yield】

Performing 1 and 2000x dilution on *Staphylococcus aureus* (ATCC27154) in range of 10^6 and 10^3 cell/ml. 200 μ l sample (3 repeats) were extracted and eluted in 100 μ l. 25 μ l eluate was used for SYBR Green real-time PCR reaction detecting specific gene in *Staphylococcus aureus*.

Quantitation data for Cycling A.Green



The result of *Staphylococcus aureus* real-time PCR

【Warranty】

Zinexts Life Science is committed to providing our customers with high-quality products and services. Our goal is to ensure that every customer is 100% satisfied with our products and services. If you have any question or concerns about our products or services, contact our Technical Support Representatives.

Zinexts Life Science guarantees the performance of all products according to specifications stated on our product literature. The purchasers/users must determine the suitability of the product for their particular use. We reserve the right to change, alter, or modify any product to enhance its performance and design.













This warranty limits Zinexts Life Science Corporation’s liability only to the cost of the product. No warranty is granted for products beyond their listed expiration date. No warranty is applicable unless all product components are stored in accordance with instructions.

【Technical Support】

For technical assistance and more information, please visit our website www.zinexts.com, contact our Technical Support or your local distributor.

【Symbols】

The following symbols are used on labels and in Instructions for Use (IFU), in compliance with EN ISO 15223-1 standard.

Symbol	Explanation
	CE mark
	For In Vitro Diagnostic Use
	Catalogue number
	Lot/Batch number
	Sufficient for [n] samples
	Instructions for Use
	Expiry date
	Storage temperature (15°C - 25°C)
	For single use only
	Manufacturer
	European Authorized Representative
	Caution

【Product List】

Catalog Number	Packaging Specification (Adapted System)
312C021A	Pre-filled Reagents for 96 Tests/Box (2 nd generation ZiXpress 32/64)
312C021B	Pre-filled Reagents for 192 Tests/Box (2 nd generation ZiXpress 32/64)
312C021C	Non Pre-filled Reagents for 960 Tests/Box (2 nd generation ZiXpress 32/64)

【Manufacturer Information】

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Product of Origin: Taiwan (R.O.C.)

【Revision History】

Version	Date	Description
3.7	01 Oct. 2024	Change company logo



Version: 3.7

Rev. Date: 01.10.2024



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