# ZiXpress® Tissue Genomic DNA Extraction Kit

CE IVD

## 【Cat. No. and Packaging Specifications】

**312D021A - Pre-filled Reagents for 96 Tests/Box** (8 Tests/Plate × 12 Plates)

**312D021B- Pre-filled Reagents for 96 Tests/Box** (16 Tests/Plate × 12 Plates)

**312D021C - Pre-filled Reagents for 96 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® Tissue Genomic DNA Extraction Kit |
| Catalogue Number | 312D021A, 312D021B, 312D021C |
| Applicable Instrument Model | All ZiXpress® Instrument |
| Displayed Protocol Name on The Instrument | Tissue |
| Processing Time | ZiXpress® 32 series 42 minutes<br>ZiXpress® 64 series 42 minutes<br>ZiXpress® 96S series 47 minutes |

## 【Intended Use】

The product purpose is to extract and purify genomic DNA from tissue sample. The elution product has high purity and complete fragments. The nucleic acids purified by using the ZiXpress® instrument are suitable for a variety of molecular biology downstream applications such as PCR, qPCR, NGS and other Molecular Biology technics aimed for genetic screening, sequencing, food safety, forensic, etc.

## 【Kit Content】

**Catalogue Number: 312D021A, 312D021B**

| | ZP02204-096 | ZP02204-192 |
|---|---|---|
| **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 |
| BL6 Buffer | 30 ml x 1 | 60 ml x 1 |
| Proteinase K (10 mg/ml) | 1 ml x 2 | 1 ml x 4 |
| Mixing Sleeves (96S only) | (8 x 12) 96 | (8 x 24) 192 |

**Catalogue Number: 312D021C**

| 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 |
| Mixing Sleeves (96S only) | (8 x 24 X 5) 960 |
| Proteinase K (10 mg/ml) | 20 ml x 1 |
| Magnetic Beads B | 40 ml x 1 |
| Lysis Buffer D | 700 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 |
| BL6 Buffer | 300 ml x 1 |

## 【Reagent Plate Content】

| Well No. | Components | Volume |
|---|---|---|
| 1/7 | Lysis Buffer D | 700 µl |
| 2/8 | Wash Buffer Z1 | 900 µl |
| 3/9 | Wash Buffer A and Magnetic Beads | 940 µl |
| 4/10 | Wash Buffer B | 900 µl |
| 5/11 | Empty | - |
| 6/12 | Elution Buffer | 150 µl |

## 【Storage & Stability】

Reagent Plates and Accessory Consumables should be stored at room temperature. **Do not** freeze the Reagent Plates. 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: Tissue samples, etc.

**b.** Sample storage: Tissue lysates are always freshly prepared and processed immediately. When the DNA separation step is delayed, the lysate should be stored at -15°C to -20°C or lower.

**c.** Sample volume: 100-400 µl

## 【Elution Requirements】

**a.** Elution volume: 150 µl

**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. 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.

**2. Reagents Plate Preparation**

**Catalogue Number: 312D021A, 312D021B**

**a.** Add 100 – 400 µl BL6 Buffer to a new 1.5 ml microcentrifuge tube, and add less than 40 mg tissue sample into BL6 Buffer. Then add 20 µl Proteinase K to the tube, incubate at 55°C in a water bath or thermomixer (mixing at 1000 rpm) until the tissue is completely lysed. (Optional: after 55°C treatment, incubate at 70°C for 10 minutes for Proteinase K inactivation if necessary.)

**b.** Remove the aluminum foil sealing membrane on the reagent plate and avoid splashing liquids. Add tissue lysate* 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.

***If the tissue contains mucus and debris, use filter tube to remove them for a better nucleic acid extraction (not supplied in this kit).**

**Catalogue Number: 312D021C**

**a.** Add 100 – 400 µl BL6 Buffer to a new 1.5 ml microcentrifuge tube, and add less than 40 mg tissue sample into BL6 Buffer. Then add 20 µl Proteinase K to the tube, incubate at 55°C in a water bath or thermomixer (mixing at 1000 rpm) until the tissue is completely lysed. (Optional: after 55°C treatment, incubate at 70°C for 10 minutes for Proteinase K inactivation if necessary.)

**b.** Load the specified buffer into specified wells of the 96 Plate according to Reagent Plate Content listed above.

**c.** Add tissue lysate* 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.

**3. Automated Extraction Setup**

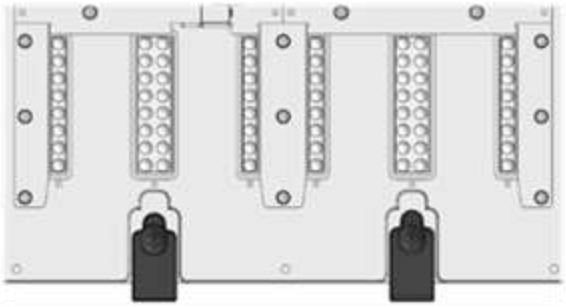
**3-1. ZiXpress 32 & ZiXpress 64**

**a.** (1) Put the reagent plate on the plate track and release heater locks. (For first generation)

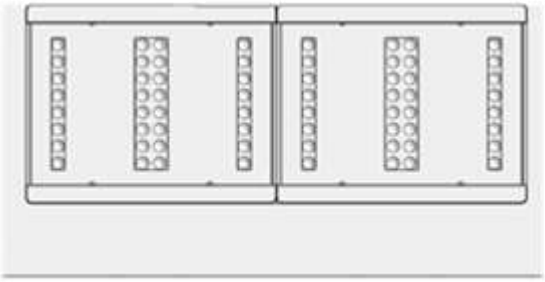
(2) Insert the reagent plate into the plate track and ensure it fit well. (For second generation)

(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 program on the instrument or edit a new protocol on the blank space. (Page1 to Page 12)

**Tissue process as below: (Process time: 42 minutes)**

| Step No. | Well | Name | Standby (min) | Mix (min) | Volume (µl) | Mix Speed | Mag (sec) | Temp (℃) |
|---|---|---|---|---|---|---|---|---|
| 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.

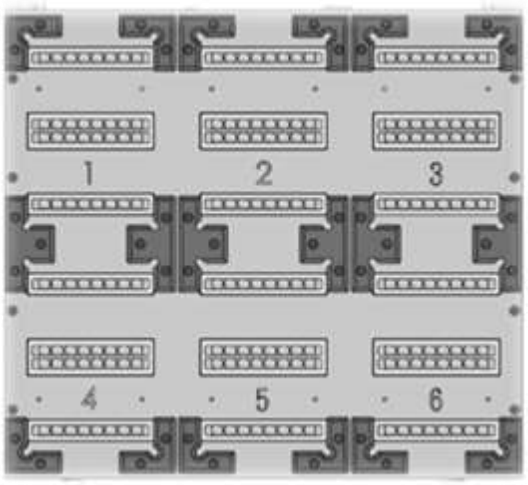
**e.** After the experiment program is finished, transfer the extracted products located at Well 6 and Well 12 into nuclease-free tubes. Store the purified nucleic acid at 4°C (short-term, less than 10 days) or aliquot and store at -70°C (long-term) before performing the downstream analysis.

### 3-2. ZiXpress 96S

**a.** Set up the Mixing Sleeves on **Well 2** and **Well 8** of Reagent Plate. Make sure Mixing Sleeves are in the right place.

**b.** Insert the Reagent Plate into the plate track and ensure it fit well.

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




**c.** Press "⏏" to close the instrument door.

**d.** Protocol Selection: Follow the information in the below list to create a protocol on the instrument.

**Blood process as below: (Process time: 47 minutes)**

| Step | Name | Well | Stir | Magnetic | Wait | Speed (rpm) | Volume (µl) | T Control (℃) |
|---|---|---|---|---|---|---|---|---|
| 1 | Transfer | 3 | 01:00 | 01:00 | 00:00 | 1600 | 900 | 120 |
| 2 | Lysis | 1 | 20:00 | 01:00 | 00:00 | 2000 | 940 | 75 |
| 3 | WASH 1 | 2 | 03:00 | 01:00 | 00:00 | 2000 | 900 | 75 |
| 4 | WASH 2 | 3 | 02:00 | 01:00 | 00:00 | 2000 | 900 | 80 |
| 5 | WASH 3 | 4 | 01:00 | 01:00 | 05:00 | 2000 | 900 | 80 |
| 6 | ELUTE | 6 | 05:00 | 01:00 | 00:00 | 1600 | 160 | 80 |
| 7 | WASTE | 4 | 01:00 | 00:00 | 00:00 | 1000 | 900 | 0 |

**e.** Press "▶" to start process.

**f.** 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】

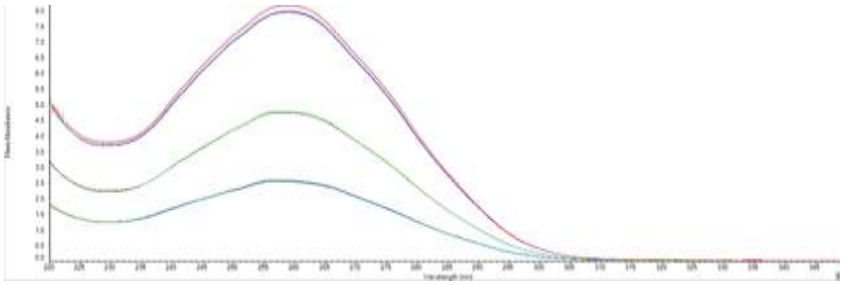
| | |
|---|---|
| **Sample Type** | Skeletal muscle tissue/Dried swab samples (e.g. Buccal cells) |
| **Target Nucleic Acid** | Total DNA |
| **Sample Volume** | 100 – 400 µl ( < 40 mg) |
| **Controls/Optional Internal Control** | Add controls/internal control in the extraction procedure if needed for downstream analysis. |
| **Elution Volume** | 150 µl |

## 【Expected Purity and Yield】

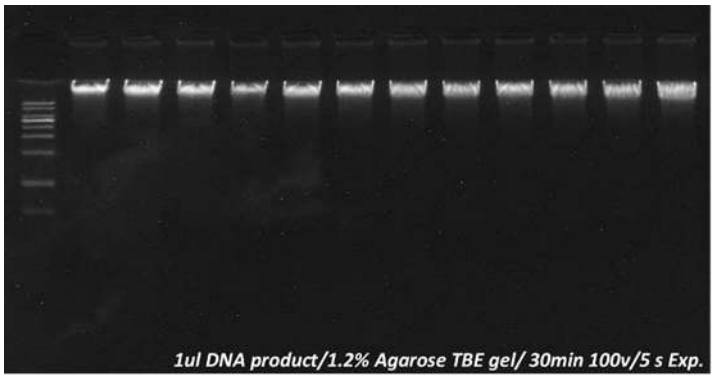
DNA was purified from three different weights of muscle tissue by ZiXpress® Instrument and Tissue DNA extraction Kit. DNA concentration was measured by NanoDrop® 2000 spectrophotometer. The range of DNA yield is 9-36 µg (from 12.5-40 mg tissue).

| Sample Type | Sample Amount | Typical DNA Yield |
|---|---|---|
| Skeletal muscle | 200 µl (lysate of 12.5 mg tissue) | Up to 9 µg |
| | 200 µl (lysate of 25 mg tissue) | Up to 18 µg |
| | 200 µl (lysate of 40 mg tissue) | Up to 36 µg |
| Buccal cells | 1 Swab | 0.8-4 µg |

**DNA concentration Measured by NanoDrop® 2000 spectrophotometer**

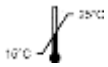


**Electrophoresis gel of the same sample in 12 repeats (5 mg tissue)**



## 【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 |

## 【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.

## 【Product List】

| Catalog Number | Packaging Specification (Adapted System) |
|---|---|
| 312D021A | Pre-filled Reagents for 96 Tests/Box **(2nd generation ZiXpress 32/64)** |
| 312D021B | Pre-filled Reagents for 192 Tests/Box **(2nd generation ZiXpress 32/64)** |
| 312D021C | Non-Pre-filled Reagents for 960 Tests/Box **(2nd generation ZiXpress 32/64)** |

## 【Manufacturer Information】


**Manufacturer:** Zinexts Life Science Corp.
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**Product of Origin:** Taiwan (R.O.C.)

## 【Revision History】

| Version | Date | Description |
|---|---|---|
| 3.8 | 10 Feb. 2025 | Add ZiXpress 96S |

**Version:** 3.8
**Rev. Date:** 10.02.2025

EC REP

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