

# ZiXpress® Viral RNA Extraction Kit



## 【Cat. No. and Packaging Specifications】

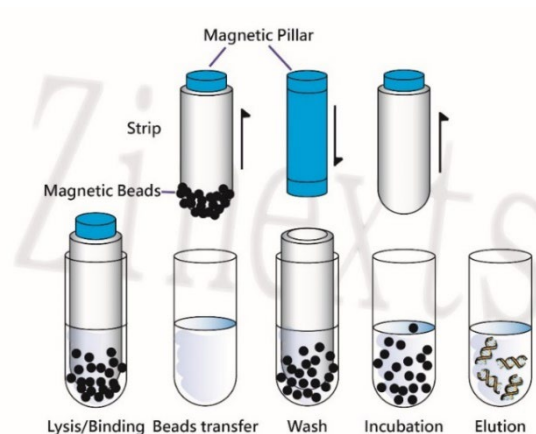
**312B041B, 312B042B - Pre-filled Reagents for 192 Tests/Box** (16 Tests/Plate × 12 Plates)

**312B041C, 312B042C – Non-Pre-filled Reagents for 960 Tests/Box** (16 Tests/Plate x 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® Viral RNA Extraction Kit
Catalogue Number	312B041B, 312B042B, 312B041C, 312B042C
Applicable Instrument Model	All ZiXpress® Instrument
Displayed Protocol Name on The Instrument	Viral-RNA
Processing Time	ZiXpress® 32 series 15 minutes ZiXpress® 64 series 15 minutes ZiXpress® 96S series 22 minutes

**【Intended Use】**

The product purpose is to extract and purify viral nucleic acids from serum, plasma, saliva, sputum samples, clinical swab samples, cell-free body fluids or cerebrospinal fluid (CSF). 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: 312B041B, 312B042B**

Components	Quantity
Reagent 96 Plate (Pre-filled)	(16 x 12) 192
8-Tip Comb	(16 x 12) 192
Mixing Sleeves (96S only)	(8 x 24) 192

**Catalogue Number: 312B041C, 312B042C**

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
Magnetic Beads B	30 ml x 1
Lysis buffer C	680 ml x 1
Wash Buffer Z3	680 ml x 1
Wash Buffer A	900 ml x 1
Wash Buffer B	900 ml x 1
RNase-free water	150 ml x 1
Single Strip* (optional) (Non Pre-filled)	(12 x 16 x 5) 960
Adapter* (optional)	(2X5)

### 【 Reagent Plate Content 】

Well No.	Components	Volume
1/7	Lysis buffer C	700 $\mu$ l
2/8	Wash Buffer Z3	700 $\mu$ l
3/9	Wash Buffer A and Magnetic Beads	930 $\mu$ l
4/10	Wash Buffer B	900 $\mu$ l
5/11	Empty	-
6/12	RNase-free water	150 $\mu$ l

### 【 Storage & Stability 】

Reagent Plate and Accessory Consumables should be stored at room temperature. **Do not** freeze the Reagent Plate. Zinexts Life Science guarantees that all components are stable for 30 months when stored properly.

### 【 Sample Requirements 】

- a. Sample type: Saliva, sputum samples, clinical swab samples, serum, plasma, cell-free body fluids or cerebrospinal fluid (CSF).
- 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  $\mu$ l

### 【 Elution Requirements 】

- d. Elution volume: 150  $\mu$ l
- e. 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 table below describes the recommendations in virus collection from different kinds of sample type:

Sample type	Procedure
For serum, plasma, cerebrospinal fluid (CSF) or cell-free body fluids.	<ol style="list-style-type: none"> <li>1. Transfer 200 µl sample to Well 1 and Well 7.</li> <li>1. If the sample volume is lower than described, please complete the volume with appropriate amount of PBS.</li> </ol>
For swab samples	<ul style="list-style-type: none"> <li>● <b>Swab without preservation solution:</b> <ol style="list-style-type: none"> <li>1. Collect swab samples in 1 ml PBS.</li> <li>2. Vortex the collection tube and incubate for 30 minutes at room temperature.</li> <li>3. Transfer 200 µl sample to Well 1 and Well 7.</li> </ol> </li> <li>● <b>Swab in liquid-based preservation solution:</b> <ol style="list-style-type: none"> <li>1. Collect swab samples in liquid transport media.</li> <li>2. Vortex the collection tube and incubate for 30 minutes at room temperature.</li> <li>3. Transfer 200 µl sample to Well 1 and Well 7.</li> </ol> </li> </ul>
For saliva sample	<ol style="list-style-type: none"> <li>1. Transfer 200 µl sample to Well 1 and Well 7.</li> <li>2. If the sample volume is lower than described, please complete the volume with appropriate amount of PBS.</li> </ol> <p>* Liquefaction could be done by using fresh DTT stock solution with BL2 Buffer (not supplied in the kit) *.</p>
For sputum samples	<ol style="list-style-type: none"> <li>1. Collect viscous samples. (e.g., sputum, BAL or other mucus specimen)</li> <li>2. Add 120 µl sample in 1.5 ml tube, mixing with 120 µl BL2 Buffer (not supplied in the kit) *.</li> <li>3. Prepare a fresh DTT stock solution for liquefaction**. (e.g., 5X DTT stock is about 0.75%)</li> <li>4. Add DTT solution in the sample (final concentration: 0.15%).</li> <li>5. Incubate the sample (e.g., with shaking at 850 rpm for 30 minutes at 37°C) until it can be pipetted easily.</li> <li>6. Transfer 200 µl to Well 1 and Well 7.</li> </ol> <p>*BL2 buffer could be purchased from Zinexts. ** Liquefaction could be done by using other solutions, such as NALC (N-Acetyl-L-Cysteine).</p>

## 2. Reagents Plate Preparation

### **Catalogue Number: 312B041B, 312B042B**

- a. Remove the aluminum foil sealing membrane on the reagent plate carefully and avoid liquid splashing.

- b. Add 200 µl viral 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. Optional: For viral DNA isolation, incubate 200 µl sample with 200 µl BL6 buffer\* and 10 µl Proteinase K\* (10 mg/ml) at 56°C and shaking at 1000 rpm for 5 minutes. Then transfer the lysate to Well 1 and Well 7 and mix 3 times by pipetting gently.  
\* BL6 buffer and Proteinase K buffer could be purchased from Zinexts.

**Catalogue Number: 312B041C, 312B042C**

- a. Load the specified buffer into specified wells of the 96 Plate according to Reagent Plate Content listed above.
- b. Optional (Single Strip method): Put the Single Strip\* on the Adapter\* and use it as Reagent Plate.  
\* Single Strip and Adapter could be purchased from Zinexts.
- c. Add 200 µl viral 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.
- d. Optional: For viral DNA isolation, incubate 200 µl sample with 200 µl BL6 buffer\* and 10 µl Proteinase K\* (10 mg/ml) at 56°C and shaking at 1000 rpm for 5 minutes. Then transfer the lysate to Well 1 and Well 7 and mix 3 times by pipetting gently.  
\* BL6 buffer and Proteinase K buffer could be purchased from Zinexts.

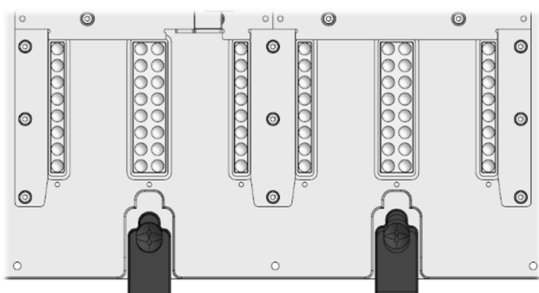
**3. Automated Extraction Setup & Consumables Preparation**

Turn on the power switch and wait for the screen to show the Home Page.

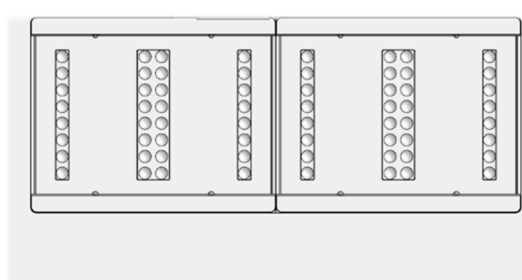
**3-1. ZiXpress 32 & ZiXpress 64**

- a. Set up the 8-Tip Combs on the 8-Tip Comb track, and make sure the 8-Tip Combs enter the track completely.
- b. (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.)  
(3) Optional - ZP02205-960 (Single Strip method): Please follow step (2) to insert the Adapter (Reagent Plate) into the plate track and ensure it fit well. (For second generation)

**First generation:**



**Second generation:**



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

**Viral-RNA process as below: (Process time: 15 minutes)**

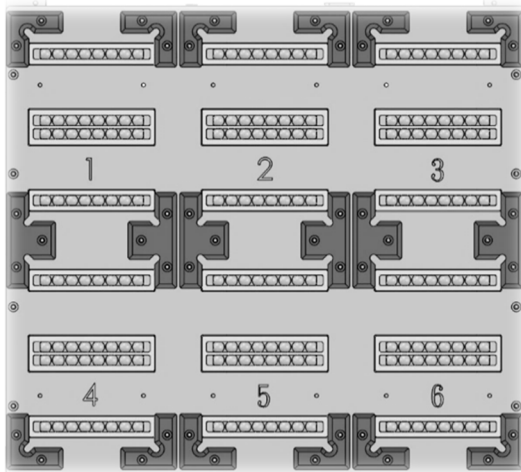
Step No.	Well	Name	Standby (min)	Mix (min)	Volume (μl)	Mix Speed	Mag (sec)	Temp (°C)
1	3	Transfer	0	0	900	0	10	0
2	1	Lysis	0	5	900	3	20	80
3	2	WASH 1	0	1	700	3	20	0
4	3	WASH 2	0	1	900	3	20	0
5	4	WASH 3	0	1	900	3	20	0
6	6	ELUTE	2	1	100	3	90	80
7	4	WASTE	0	1	900	2	0	0


- 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.

**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.

**Viral-RNA process as below: (Process time: 22 minutes)**

Step	Name	Well	Stir	Magnetic	Wait	Speed (rpm)	Volume (µl)	T Control (°C)
1	Transfer	3	00:10	00:45	00:00	1600	900	0
2	Lysis	1	05:00	00:30	00:00	2000	900	120
3	WASH 1	2	02:00	00:20	00:00	2000	700	90
4	WASH 2	3	01:00	00:20	01:00	2000	900	90
5	WASH 3	4	01:00	00:20	00:00	2000	900	120
6	ELUTE	6	05:00	00:35	00:00	2500	120	120
7	WASTE	4	00:10	00:00	00:00	2500	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 usage, 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.

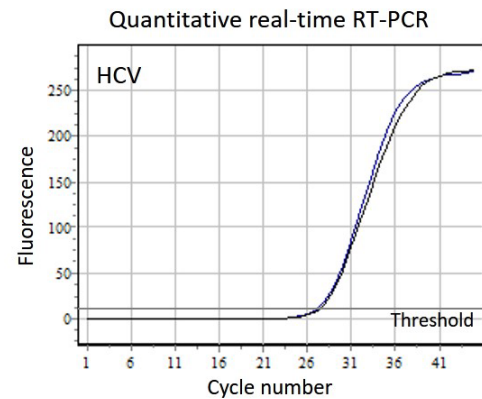
Please report any serious incident occurred in relation to the device to your local representative/agent or the manufacturer, and to the competent authority of your country/state.

**【Starting Material】**

<b>Sample Type</b>	Serum, plasma, saliva, sputum, clinical swab samples, cell-free body fluids or cerebrospinal fluid (CSF).
<b>Target Nucleic Acid</b>	Total viral nucleic acids (DNA and RNA)
<b>Sample Volume</b>	200 µl * If the sample is less than 200 µl, please add 1X PBS to fill up to 200 µl.
<b>Controls/Optional Internal Control<sup>#</sup></b>	Add controls/internal control in the extraction procedure if needed for the downstream analysis.
<b>Elution Volume</b>	150 µl

### 【Expected Purity and Yield】

Using HCV serum from patient as sample to extract viral RNA by ZiXpress® Viral RNA Extraction Kit. 200 µl sample was extracted and eluted in 120 µl. 15 µl elution was used for real-time PCR by AmpliSens® HCV/HBV/HIV-FRT PCR kit. Two repeat samples can be detected, proving the excellent reproducibility of the isolation procedure.



### 【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 our services. If you have any questions 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 further information, please visit our website [www.zinexts.com](http://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)
312B041B	Pre-filled Reagents for 192 Tests/Box ( <b>2<sup>nd</sup> generation ZiXpress 32/64</b> )
312B042B	Pre-filled Reagents for 192 Tests/Box ( <b>ZiXpress 96S</b> )
312B041C	Non Pre-filled Reagents for 960 Tests/Box ( <b>2<sup>nd</sup> generation ZiXpress 32/64</b> )
312B042C	Non-Pre-filled Reagents for 960 Tests/Box ( <b>ZiXpress 96S</b> )

### 【Manufacturer Information】

**Manufacturer:** Zinexts Life Science Corp.  
**Address:** 16F., No. 93, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221416, Taiwan (R.O.C.)  
**Tel:** +886 2 2246 3579  
**Fax:** +886 2 2243 8570  
**Mail:** [info@zinexts.com](mailto:info@zinexts.com)  
**Product of Origin:** Taiwan (R.O.C.)

### 【Revision History】

Version	Date	Description
1.7	01 Oct 2024	Change company logo



**Version:** 1.7  
**Rev. Date:** 01.10.2024



**Obelis s.a.**  
Bd Général Wahis 53  
1030 Brussels Belgium  
Tel: +(32) 2 732-59-54  
Fax: +(32) 2 732-60-03  
[mail@obelis.net](mailto:mail@obelis.net)



**ZINEXTS LIFE SCIENCE CORP.**  
16F., No. 93, Sec. 1, Xintai 5th Rd.,  
Xizhi Dist., New Taipei City  
221416, Taiwan (R.O.C.)