# NAUTIAGENE

Product Information

# NautiaZ Gel/PCR DNA Purification Mini Kit

(100/300 prep)

Cat. No. : NGEZ-S100/NGEZ-S300

Sample : 100 µl PCR Product
300 mg of Agarose Gel

Recovery : Up to 95%

| | |
|---|---|
| NGEZ-S100 | NautiaZ Gel/PCR DNA Purification Mini Kit (100 prep) |
| NGEZ-S300 | NautiaZ Gel/PCR DNA Purification Mini Kit (300 prep) |

## Contents

| | NGEZ-S100T | NGEZ-S100 | NGEZ-S300 |
|---|---|---|---|
| EZ Buffer | 2 ml | 60 ml | 80 ml x2 |
| W1 Buffer | 2 ml | 45 ml | 125 ml |
| W2 Buffer* | 300 ul x2 | 15 ml | 25 ml x2 |
| Elution Buffer | 1 ml | 10 ml | 30 ml |
| EZ Column | 4 pcs | 100 pcs | 300 pcs |
| Collection Tube | 4 pcs | 100 pcs | 300 pcs |
| User Manual | 1 | 1 | 1 |

*Add 1.2 ml x2 / 60 ml / 100 ml x2 ethanol (96-100%) to W2 Buffer prior to the initial use.

## Buffer Preparation

- Add ethanol (96-100%) to the Wash Solution prior to first use

| | NGEZ-S100T | NGEZ-S100 | NGEZ-S300 |
|---|---|---|---|
| W2 Buffer<br>ethanol (96 ~ 100%) | 300 ul x2<br>1.2 ml x2 | 15 ml<br>60 ml | 25 ml x2<br>100 ml x2 |

## Additional Requirements

1.5 ml microcentrifuge

## Important Notes

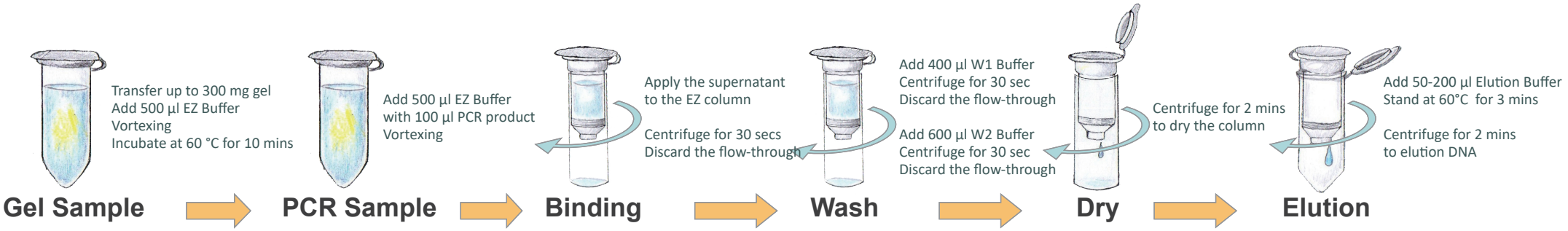
1. Buffers provided in this system contain irritants. Wear gloves and lab coat when handling these buffers.
2. Add ethanol (96- 100 %) to W2 Buffer when first open.
3. Prepare dry baths or water baths before the operation.
4. Resolve any precipitate by warming at 37°C.

## Description

The NautiaZ Gel/PCR DNA Purification Mini Kit is designed to recover or concentrate DNA fragments (50 bp-10 kb) from agarose gels in 20 mins, PCR or other enzymatic reactions. The unique dual purpose application and high yield mini columns make this kit valuable. The method uses a chaotropic salt, guanidine thiocyanante to dissolve agarose gel and denature enzymes. DNA fragments in chaotropic salt solution bind to the glass fiber matrix of the spin column. Following washing off contaminants, the purified DNA fragments (Effective Binding Capacity Approx: 20 ug ) are eluted by addition of low salt elution buffer or water. Salts, enzymes and unincorporated nucleotides are effectively removed from reaction
mixtures without phenol extraction or alcohol precipitation.

## Storage

Store at room temperature.




# Gel Extraction

| STEP | PROCEDURE |
|---|---|
| 1<br>Gel<br>Dissociaton | Excise the agarose gel slice containing relevant DNA Fragments.<br>Transfer up to 300 mg (do not over 300 mg) of the gel slice into a microcentrifuge tube *(not provided)*.<br>**Add 500 µl EZ Buffer** to the sample and mix by vortexing. |
| | Incubate at 60°C for 10 minutes until the gel slice has been completely dissolved. During incubation, invert the tube every 2-3 minutes.<br>Cool down the dissolved sample mixture to room temperature slowly. |
| 2<br>DNA<br>Binding | Place a **EZ Column** in a Collection Tube .<br>Apply the sample mixture into the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back in the Collection Tube.<br><br>Note: If the sample mixture is more than 800 µl, repeat this DNA Binding Step. |
| 3-1<br>Wash | **Add 400 µl W1 Buffer** in the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back into the Collection Tube. |
| 3-2<br>Wash | **Add 600 µl W2 Buffer** (ethanol added) into the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back in the Collection Tube. |
| 4<br>Dry | Centrifuge again for 2 minutes at 14,000 x g to dry the column matrix. |
| 5<br>DNA<br>Elution | Transfer dried Column in a new microcentrifuge tube (not provided).<br>**Add 50 - 200 µl Elution Buffer** or distilled water into the center of the column matrix.<br>( If DNA is larger than 5 kb, use preheated 60°C Elution Buffer to improve the elution efficiency ) |
| | Stand for 2 minutes until Elution Buffer or distilled water is absorbed by the matrix.<br>Centrifuge for 2 minutes at full speed to elute purified DNA. |
| 6<br>Pure DNA | Store DNA at 4 °C or -20 °C. |

# PCR Clean Up

| STEP | PROCEDURE |
|---|---|
| 1<br>Sample<br>prepare | **Add 500 µl EZ Buffer** to 100 µl PCR product and mix by vortexing. |
| 2<br>DNA<br>Binding | Place a **EZ Column** in a Collection Tube .<br>Apply the sample mixture into the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back in the Collection Tube. |
| 3-1<br>Wash | **Add 400 µl W1 Buffer** in the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back into the Collection Tube. |
| 3-2<br>Wash | **Add 600 µl W2 Buffer** (ethanol added) into the EZ Column.<br>Centrifuge at 14,000 x g for 30 seconds.<br>Discard the flow-through and place the EZ Column back in the Collection Tube. |
| 4<br>Dry | Centrifuge again for 2 minutes at 14,000 x g to dry the column matrix. |
| 5<br>DNA<br>Elution | Transfer dried Column in a new microcentrifuge tube (not provided).<br>**Add 50 - 200 µl Elution Buffer** or distilled water into the center of the column matrix.<br>( If DNA is larger than 5 kb, use preheated 60°C Elution Buffer to improve the elution efficiency ) |
| | Stand for 2 minutes until Elution Buffer or distilled water is absorbed by the matrix.<br>Centrifuge for 2 minutes at full speed to elute purified DNA. |
| 6<br>Pure DNA | Store DNA at 4 °C or -20 °C. |