

# Delivery and Stock Device of Bioresources

# NIG Card



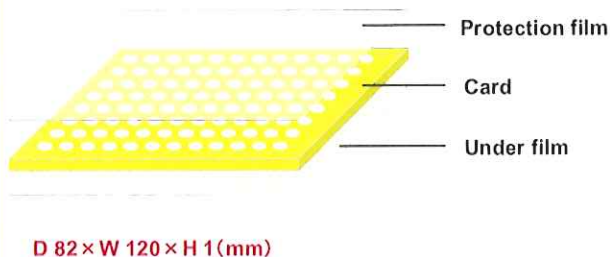
## Characteristics

- **Variety of Bioresources Preservation** *E.coli*, Budding Yeast, Diving Yeast, DNA, Plasmid, etc.  
Easy culture after extraction.
- **Easy Transportation** Preservation at room temperature for maximum one week. Easy transportation by regular postal envelop or courier package.
- **Space Saving** **Super thin-Just 1mm thickness and compact size.**
- **Easy Extraction** Easily extractable by centrifugation.

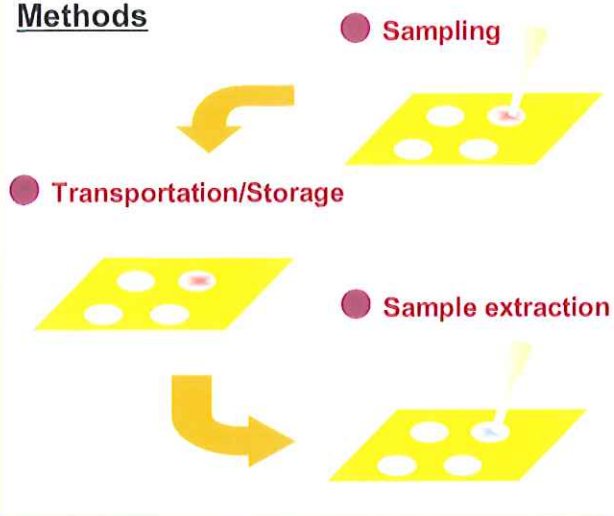
Product No.	Type	Volume	Sheets	Price(US\$)
NIG-001100	1 well	15 $\mu$ l	100	300.00
NIG-02425	24 well	40 $\mu$ l	25	562.50
NIG-09625	96 well	5 $\mu$ l	25	562.50

※ **Non-pathogenic Bacteria are only available for use**

## Outline of NIG Card ( 96 well type )



## Methods



## Methods ( 96well ):

### Transportation/Storage :

- ① Pull out NIG Card and a preservation sheet from Aluminum Foil Bag.
- ② Remove the protection film from NIG Card.
- ③ Spot slowly 5  $\mu$ l of sample onto filter paper (For *E.coli* or Yeast, recommended to prepare *E.coli* or Yeast suspension with glycerol solution.)
- ④ Remove the paper from the preservation sheet and attach it quickly onto NIG Card before the sample dries. For storage, NIG Card is preserved at -20°C or -80°C. For transportation, put back NIG Card into Aluminum Foil Bag. NIG Card should reach its destination within one week.

### Extraction :

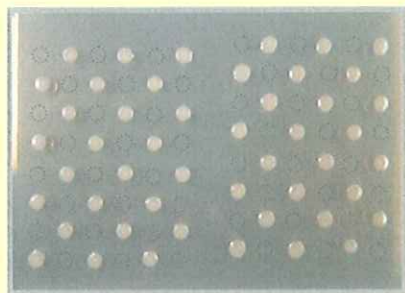
For all samples :

- ① Remove the backside film from NIG Card and attach it to 96 well microtiter plate including 50 to 100  $\mu$ l of buffer solution in each well.
- ② Confirm tight stickiness between NIG Card and the plate and then turn up and down it several times.
- ③ Use a centrifuge with swing rotor and centrifuge at 3,000 rpm for 10 minutes.

For several samples :

- ① Push out filter paper containing sample with glass stick.
- ② The sample in the filter paper is extracted by shaking in the test tube containing buffer or culture medium.
- ③ The samples are ready to use.

## Results ( Transportation ) :



You can see no contamination of *E.coli* in the well containing culture solution.

- ① Spotted alternately each 5  $\mu$ l of *E.coli* glycerol solution or culture solution.
- ② Courier delivery to Boston and back to Japan upon arrival at Boston.
- ③ Extracted the sample from each well and inoculated onto culture media agar and cultured overnight.



### Manufacturer

BioROIS Co., Ltd.

A Japanese venture company, launched from  
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Research Organization of Information & systems

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## Technical Documents –Guideline for Use NIG Card 96 Well Plate

BioROIS Co. Ltd.

NIG Card patented by National Institute of Genetics (NIG) is an unique card for transporting and preserving biological resources such as yeast, bacteria, plasmid, DNA, and RNA etc .

NIG Card is sterilized and sealed in Aluminium foil bag.. NIG Card 96 well plate can also be used by robotic pipetting operations.

### I Spotting of Biological Resources :

1) Check that NIG Card, a preservation sheet, and a support plastic plate are inside aluminum foil bag.. Do not pull out the support plastic plate from the bag (Photo-1)

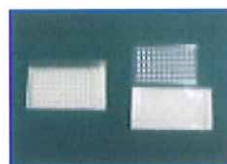


Photo-1

2) Remove the protection film from the upper surface of NIG Card.

3) Fill in the sample name etc in a free space of NIG Card with a permanent marker pen .

4) Spot slowly 5  $\mu$ l of sample into filter paper, paying careful attention not to splash the sample into neighbor wells.( Photo-2)

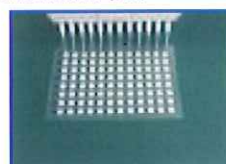


Photo-

5) Make sure that sample is absorbed totally into the filter paper.

6) Remove the release-paper from the preservation sheet and attach it quickly onto NIG Card before the sample dries.

※When attaching the preservation sheet to NIG Card surface, fit at the lower edges of both the preservation sheet and NIG Card ,then remove your hands from the NIG Card(Photo-3 and 4) and press it lightly from the center area to outer. (Photo- 5 and 6)



Photo-3



Photo-4



Photo-5



Photo-6

※ In case the samples are yeast or bacteria, it is recommended to prepare a yeast or bacteria suspension with glycerol solution so that the final concentration of glycerol is adjusted to 15% or 20% respectively and apply it as the samples to NIG Card.

※ A biologically clean working environment is essential to carry out all above procedures .

### <When transport >

① Put back NIG Card containing sample into aluminum foil bag.. (Supporte plastic plate inside Aluminium foil bag prevents NIG Card from vending during transportation .)

② Seal the aluminum foil bag completely.

③ Escherichia Coli and Yeast can be transported at normal temperature under an adequate glycerol concentration .

### <When preserve>

① Hold NIG Card containing sample between rigid plates such as Polycarbonate board with thickness 0.5-1mm and secure at 3-4 different places around the edge of the board with paper clips . (Photo-7 and 8 )



Photo-7

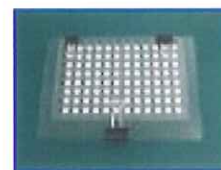


Photo-8

② Preserve at  $-20^{\circ}\text{C} \sim -80^{\circ}\text{C}$  condition .

## II Extraction of Sample

### 1. Centrifugal Extraction Method

1) Check that there are no damage or irregularity to NIG Card .

2) Remove the preservation sheet from NIG Card and confirm if the surface of the filter paper is not dried.

3) Remove the backside film from NIG Card and attach NIG Card to the upper surface of 96 well microtiter plastic plate (which is not included in the NIG Card product) so that the each number of both 96 well microtiter plastic and NIG Card can correspond at the same position . (Photo-9)



Photo-9

※ Confirm that NIG Card is tightly sticked to the surface of the 96 well microtiter plastic plate .

※ When attaching , pay careful attention to the case that the each well of NIG Card may not be placed in the correct position of 96 well microtiter plastic plate.

※ It is not necessarily need to fit the center of filter paper on the center of the well, because the diameter of extraction hole is smaller than that of the filter paper.

4) Spot 2  $\mu\text{l}$  of buffer solution or culture medium into each well of NIG Card. Otherwise, put previously 50 to 100  $\mu\text{l}$  of buffer solution or culture medium into each well of the 96 well microtiter plastic plate and then attach NIG Card to the 96 well microtiter plastic plate well without removing the preservation sheet from NIG Card. Confirm tight stickness between NIG Card and the plate. Then turn up and down slowly the combined Card and plate several times to secure that the buffer solution or culture medium penetrates into each filter paper.

5) Use a centrifuge with swing rotor and centrifuge at 3,000 r.p.m.(2,100g) for 10 minutes at room temperature.

6) Check the amount of liquid obtained after centrifugation . If the liquid obtained is less in quantity, add buffer solution or culture medium and centrifuge once again .

7) Remove NIG Card from the centrifuge. The samples in the 96 well microtiter plastic plate are ready to use.