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# PrimeWay Food DNA Extraction Kit

(KIT-9080-10/50)

The **PrimeWay Food DNA Extraction Kit** is a rapid and reliable kit designed to isolate DNA from a wide range of foods, including raw and processed food samples originating from animals, plants, mixed sources, or cultured bacteria. It is suitable for food source authentication and GMO DNA isolation.

This kit utilises a **silica-based spin column method**, and **no hazardous organic solvents** (e.g., chloroform) **are required**. The extracted DNA is **free from PCR inhibitors and RNA**. It has been proven **suitable for downstream applications** such as PCR (as short as 90 bp), qPCR, amplicon sequencing, etc.

## Suitable for a wide range of foods

### Solid Food

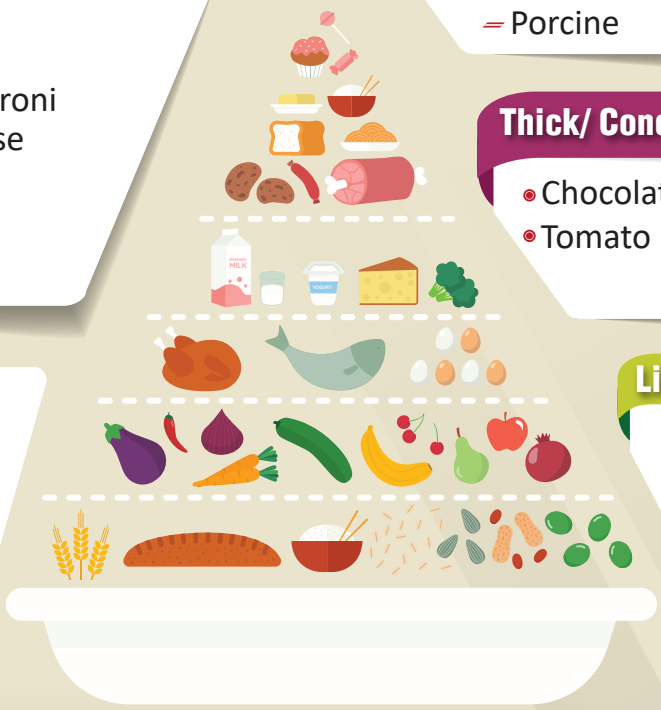
- Canned Sardine in Tomato Sauce
- Tuna with Chicken in Jelly
- Chicken Ham
- Canned Tuna in Oil
- Canned Beef Curry
- Peanut Butter
- Pork Sausage
- Crab Stick
- Popcorn
- Bee Pollen
- Macaroni
- Cheese
- Flour
- Tofu
- Oat

### Gel/ Gum/ Gelatine

- Gummy Candy
- Chewing Gum
- Gelatine Capsule
  - Bovine
  - Porcine
- Agar
- Gelatine
  - Bovine
  - Porcine
  - Fish

### Thick/ Concentrated Liquid Food

- Chocolate Paste
- Tomato Ketchup
- Tomato Puree
- Jam



### Liquid Food

- Soya Milk
- Dairy Product
  - Yoghurt (Target Source)
  - Cooking Cream
  - Cow Milk

### Liquid Food with Bacteria

- Cultured Milk
- Bacteria
- Yoghurt
- Milk

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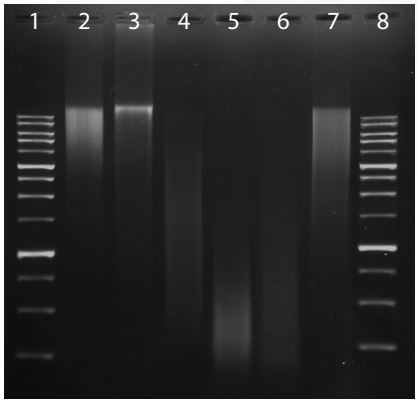
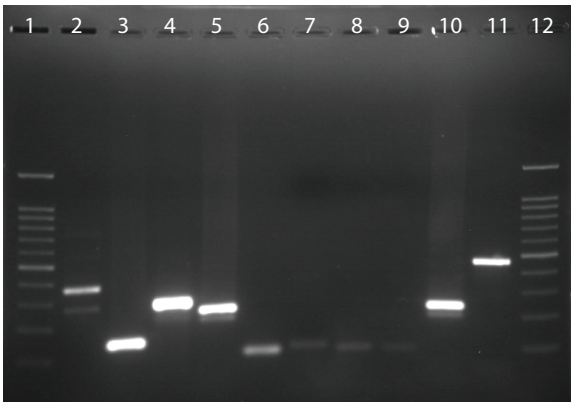
# RNA-free DNA




DNA isolated from various food samples using the PrimeWay Food DNA Extraction Kit. 50 ng of the extracted DNA from the eluent are analysed on agarose gel.

1: 1 kb DNA Ladder
2: Bee Pollen
3: Flour
4: Crab Stick
5: Sausage
6: Canned Sardine
7: Ham
8: 1 kb DNA Ladder

# Free from PCR Inhibitors

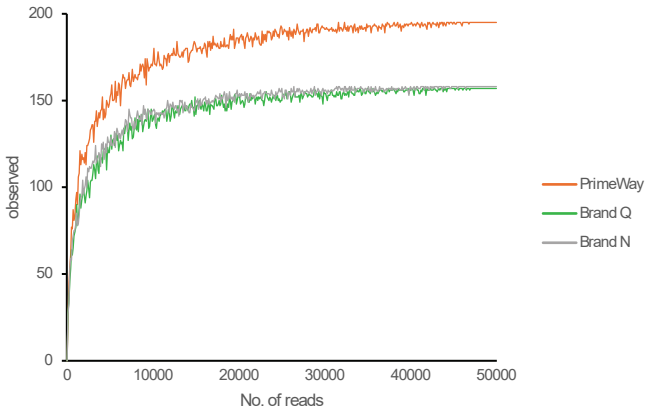



Amplification of specific gene region targeted to the food origin. PCR product is analysed on agarose gel.

[Food Type; Target Gene, PCR Size]
1: 100bp DNA Ladder
2: Crab Stick; COI, 400 bp
3: Sausage; mt16S rRNA, 138 bp
4: Ham; mt12S rRNA, 281 bp
5: Bee Pollen; rbcL, 225 bp
6: Popcorn; $tRNA^{leu}$, 90 bp
7: Gelatine Capsule; mt12S rRNA, 99 bp
8: Tomato Puree; $tRNA^{leu}$ , 90 bp
9: Tomato Ketchup; $tRNA^{leu}$, 90 bp
10: Soya Milk; rbcL, 225 bp
11: Cultured Milk; bacteria16S rRNA, 450 bp
12: 100bp DNA Ladder

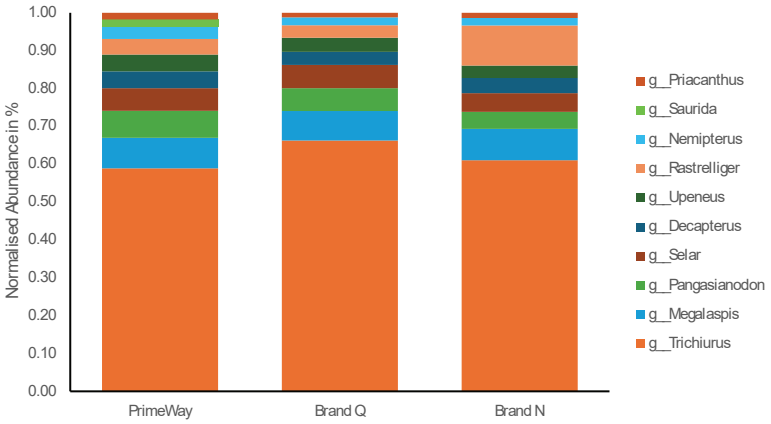
# Comparison of Animal Profiling in Crab Stick (COI Gene)

Rarefaction Curve




The Alpha Diversity is presented using rarefaction curve. Rarefaction curve is used to provide insight on the number of species detected at the given sequencing depth.

Relative Abundance of Animal Profiling in Crab Stick




Comparison of animal profiles from crab stick. The DNA is extracted using the PrimeWay kit and two other brands of food DNA extraction kits. The COI gene was amplified from the extracted DNA and sequenced on the Illumina MiSeq Platform. The DADA2 pipeline was used to analyse the data, and the results are shown in the figure above. The top 10 relative abundance of animal profiling are classified in genus level.

## 1st BASE PrimeWay Food DNA Extraction Kit

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|---|---|
| **Product Code** | KIT-9080-10/50 |
| **Sample Type** | Solid Food, Thick/ Concentrated Liquid Food, Liquid Food, Liquid Food with Bacteria, Gel/ Gum/ Gelatine |
| **Binding Capacity** | 100 µg |
| **Duration** | ≤ 30 minutes (exclude lysis incubation) |
| **Packaging Size** | 10, 50 Preps |

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