

[Cat. No.] **K-6911**

Introduction

AccuPower® Paralytic Shellfish Poisoning Real-Time PCR Kit is designed to simultaneously detect *Alexandrium catenella*, *Alexandrium pacificum*, and *Gymnodinium catenatum* in a single multiplex qPCR reaction, utilizing DNA extracted from PSP-producing phytoplankton and major shellfish samples. This product is based on the TaqMan probe-based multiplex qPCR method and is compatible not only with ExiCycler™ V5 but also with real-time PCR instruments from other manufacturers, such as Bio-Rad and ABI. Recommended samples include the PSP-causing phytoplankton (*A. catenella*, *A. pacificum*, and *G. catenatum*), as well as major shellfish samples such as oysters, sea mussels, and Manila clams.

Additionally, it is supplied with a MasterMix containing all the essential components required for the PCR reaction (DNA polymerase, primers, dNTPs, and reaction buffer) along with an OligoMix specifically designed to detect the three types of phytoplankton.

Target phytoplanktons

Alexandrium catenella, *Alexandrium pacificum*, *Gymnodinium catenatum*

Features & Benefits

- **Dynamic Range** : Provides a wide quantitative range from 10^2 to 10^8 copies for simultaneous detection of three target phytoplankton species in a multiplex qPCR reaction.
- **Specificity** : Utilizes HotStart Taq DNA Polymerase and optimized target-specific primers and probes to achieve highly specific amplification of the target phytoplankton species with minimal cross-reactivity.
- **Reproducibility** : Manufactured under an ISO 9001-certified quality management system to minimize lot-to-lot variation and provide consistent and reproducible results under the same experimental conditions

Components

Components	Amount
<i>AccuPower®</i> Paralytic Shellfish Poisoning MasterMix	1.5 ml x 1 ea
Paralytic Shellfish Poisoning OligoMix	400 µL x 1 ea
Positive Control	50 µL x 1ea
DEPC-DW	1.2 mL x 1 ea
PC Dilution buffer	1 mL x 1 ea
Product manual	1 sheet

* **Note:** For research use only. Not for use in diagnostic or therapeutic procedures.

Specifications

<i>Taq</i> DNA polymerase	
5'→3' exonuclease activity	No
3'→5' exonuclease activity	No
3'-A overhang	Yes

Storage

Store at -20°C. If stored in the recommended temperature, this product will be stable until the expiration date printed out on the label.

Online Resources



Visit our **product page** for additional information and protocols

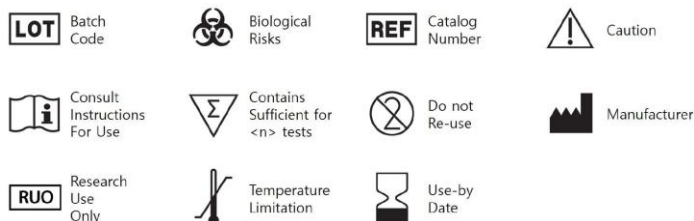
Ordering information

Description	Cat. No.
<i>AccuPower®</i> Paralytic Shellfish Poisoning Real-Time PCR Kit, 1.5 ml of Master Mix solution, 100 tests	K-6911

Notice

Bioneer corporation reserves the right to make corrections, modifications, improvements and other changes to its products, services, specifications or product descriptions at any time without notice.

Explanation of Symbols



Experimental Procedures

Steps		Procedure Details																							
1	 Preparation of template DNA	1. Template DNA is extracted using the EcoQprep™ Genomic DNA Kit (K-3701) or an equivalent DNA extraction kit.																							
2	 Preparation of reaction mixture	2. Dispense the reaction components into a PCR tube or plate according to the composition below (per 1 test) <table><tr><th>Composition</th><th>Volume</th></tr><tr><td>AccuPower® Paralytic Shellfish Poisoning MasterMix</td><td>15 µL</td></tr><tr><td>Paralytic Shellfish Poisoning OligoMix</td><td>4 µL</td></tr><tr><td>Template DNA</td><td>5 µL</td></tr><tr><td>DEPC-DW</td><td>Up to 25 µL</td></tr><tr><td>Final volume</td><td>25 µL</td></tr></table> 3. Completely seal the PCR tube (or plate) into which the solution has been added using a sealing film. 4. Spin down the PCR tube (or plate)	Composition	Volume	AccuPower® Paralytic Shellfish Poisoning MasterMix	15 µL	Paralytic Shellfish Poisoning OligoMix	4 µL	Template DNA	5 µL	DEPC-DW	Up to 25 µL	Final volume	25 µL											
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3	 Real-time PCR	5. Load the PCR tubes (or plate) into the real-time PCR instrument. 6. Set the fluorescent dyes as follows: <table><tr><th>Target</th><th>Fluorescence</th></tr><tr><td>Alexandrium catenella</td><td>FAM</td></tr><tr><td>Alexandrium pacificum</td><td>HEX (or TET)</td></tr><tr><td>Gymnodinium catenatum</td><td>Cy5</td></tr></table> 7. Set the PCR conditions as follows: <table><tr><th>Step</th><th>Temperature</th><th>Time</th><th>Cycles</th></tr><tr><td>Pre-denaturation</td><td>95°C</td><td>2 min</td><td>1 cycle</td></tr><tr><td>Denaturation</td><td>95°C</td><td>15 sec</td><td rowspan="2">40 cycles</td></tr><tr><td>Annealing & Extension</td><td>60°C</td><td>45 sec</td></tr></table> * Note: Protocols may be adjusted to achieve optimal results depending on the instrument being used and the template sequence. 8. After the PCR reaction is finished, analyze the result.	Target	Fluorescence	Alexandrium catenella	FAM	Alexandrium pacificum	HEX (or TET)	Gymnodinium catenatum	Cy5	Step	Temperature	Time	Cycles	Pre-denaturation	95°C	2 min	1 cycle	Denaturation	95°C	15 sec	40 cycles	Annealing & Extension	60°C	45 sec
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