AccuPower® qPCR Array System: Human Cancer qPCR panel kit (96 well plate)

(V0/2021-10-12)

[Cat. No.] **S-6042-PH1**

Introduction

BIONEER offers 96-well plates coated with 88 genes which are related with apoptosis invasion & metastasis, angiogenesis, oncogenes & tumor suppressor, signal transduction & transcription factors, and cell cycle & DNA damage repair, reference 5 genes, and 3 control primers. Human Cancer qPCR panel kit is an easy-to-use product as it simplifies preparation of real-time PCR mixture by making the user add the template DNA, 2X Master Mix (intercalating dye type), and nuclease-free water only. All primers are designed and validated in accordance with the MIQE (Minimum Information for Publication of Quantitative Real-Time PCR Experiments) guidelines*.

* Bustin, S.A., et al. 2009. The MIQE Guidelines: Minimum Information for Publication of Quantitative Real-Time PCR Experiments, Clinical Chemistry 55:4, 611-622.

Features & Benefits

- Fidelity: qPCR primer with qPCR efficiency of 90-110%, with guaranteed detection limit of 100 copies.
- User-friendly: Simplified procedure starting just by adding the template and Master Mix you want to analyze.
- Economic: Reduced time and cost of primer design, synthesis and efficiency assays.

Components

Components	Amount
Human Cancer qPCR panel kit (96 well plate)	1 plate
Adhesive Optical Sealing Film (Cat.No. 3111-4110)	1 sheet per plate

Storage

- This product is shipped at ambient temperature.
- Store at room temperature. If stored in the recommended temperature, this product will be stable for 2 years after the delivery date.

Online Resources

Korean

English

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

Ordering Information

Description		Cat. No.
AccuPower® qPCR Array System: Human Cancer qPCR panel kit	96 genes	S-6042-PH1
AccuPower® qPCR Array System: Single gene qPCR Primer Set	200 rxn	S-6042-S200

*** Note:** The selected reference gene can be ordered in 200 rxn increments.

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

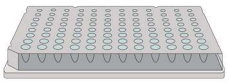
Plate Map

	1	2	3	4	5	6	7	8	9	10	11	12
A	ABL1	BAD	CASP8	CDKN2A	FGFR2	JAK2	MTA2	NTRK3	RB1	TFE3	TNF	ACTB
B	AKT1	BAX	CCND1	CFLAR	FGFR3	MAP2K1	MYC	PDGFRA	RET	TFEB	TNFRSF10B	B2M
C	ALK	BCL2	CCND2	CHEK2	FOS	MDM2	NF1	PDGFRB	RUNX1	TGFB1	TNFRSF1A	GAPDH
D	ANGPT1	BCL2L1	CCND3	CTNNB1	FOXO1A	MET	NF2	PLAU	SERPINB5	TGFBR1	TNFRSF25	HPRT1
E	ANGPT2	BCL6	CDK2	ERBB2	FOXO3A	KMT2A	NFKB1	PLAUR	SERPINE1	THBS1	TP53	RPLP0
F	APAF1	BRAF	CDK4	MECOM	GMPS	MMP2	NFKBIA	PTEN	SYK	TIMP1	TRADD	NTC
G	APC	BRCA1	CDK6	EWSR1	HMGA2	MMP9	NOTCH1	RAF1	TAL1	TIMP2	VEGFA	GDC
H	ATR	BRCA2	CDKN1A	FADD	IGF1	MTA1	NTRK!	RARA	TERT	TLX1	WT1	PPC

Table 1. Layout of Human Cancer qPCR panel kit

The panel is involved 88 target genes (A1 through H11), 5 reference genes (A12-E12), and 3 control primers (F12-H12).

Experimental Procedures

<table>
<tr><th colspan="2">Steps</th><th>Procedure Details</th></tr>
<tr><td>1</td><td> 
Preparation of reaction mixture</td><td>1. Prepare template DNA, AccuPower® 2X GreenStar™ qPCR Master Mix (K-6251, not provided), and nuclease-free water in a tube to make a total volume of 50 µl as described in following table.
<table>
<tr><th>Components</th><th>50 µl reaction</th></tr>
<tr><td>AccuPower® 2X GreenStar™ qPCR Master Mix</td><td>25 µl</td></tr>
<tr><td>Template DNA</td><td>5 pg-100 ng</td></tr>
<tr><td>Nuclease-free water</td><td>Variable</td></tr>
<tr><td>Total volume</td><td>50 µl</td></tr>
</table></td></tr>
<tr><td>2</td><td> 
Resuspension of primers</td><td>2. Carefully remove the covered film of panel and dispense 50 µl of reaction mixture into each well of AccuPower® qPCR Array System: Human Cancer qPCR panel kit.
* Note: Change pipette tips following each pipetting step to avoid cross-contamination among the wells.

3. Seal the plate with adhesive optical sealing film and briefly spin down.

4. Then, completely mix by vortexing to resuspend lyophilized primers and spin down again.
* Note: Before start, check carefully if there are residues on the film.</td></tr>
<tr><td>3</td><td> 
Real-time PCR</td><td>5. Perform the reaction under the following conditions.
<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>10 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>5 sec</td><td rowspan="3">40 cycles</td></tr>
<tr><td>Annealing</td><td>58°C</td><td>25 sec</td></tr>
<tr><td>Extension</td><td>72°C</td><td>30 sec</td></tr>
<tr><td>Detection</td><td colspan="2">Scan</td><td></td></tr>
<tr><td>Final extension</td><td>65°C</td><td>5 min</td><td>1 cycle</td></tr>
<tr><td>Melting</td><td>65-95°C</td><td>1 sec</td><td>-</td></tr>
</table>
6. After the reaction, perform data analysis.</td></tr>
<tr><td></td><td> 
Control primers</td><td>1) Non-Template Control (NTC)
- NTC is a negative control for checking on random or on reagent contamination.
- Just add the pre-mixture containing nuclease-free water but excluding the template into NTC well.
- If the value of Ct^{NTC} is less than 35, there is overall DNA contamination in your PCR system. In this case, clean up the equipment and replace all the reagents to new ones.

2) Genomic DNA Control (GDC)
- GDC primer is for the detection of non-transcribed genomic DNA contamination.
- In GDC well, primers which target genomic DNA are coated.
- Add pre-mixture (your template, 2X Master Mix and nuclease free water) into the GDC well.
- If the value of Ct^{GDC} is less than 35, gDNA contamination might have occurred in your RNA samples. In this case, you ought to conduct an additional DNase treatment to clean up your samples.

3) Positive PCR Control (PPC)
- PPC primer is for the PCR test.
- The PPC well contains positive template and primers, so just add 2X Master Mix and nuclease-free water into the PPC well.
- The value of Ct^{PPC} should be referred to the quick manual provided together.</td></tr>
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