Signosis
Innovative Plate Assay Solutions

Inflammation Multiplex PCR Kit

Catalog Number MG-0004 **(For Research Use Only)**

Introduction

During both acute and chronic inflammatory processes, a variety of soluble factors are involved in the cellular infiltrate, the cellular activation, and the systemic responses to inflammation. Cytokines are major determinants of inflammatory responses. They are involved in extensive networks and exhibit both negative and positive regulatory effects on various target cells. Cytokine gene expression level regulates the cellular effects on biological process. Alterations in inflammatory cytokine gene expression underlie the detrimental influence on many diseases, periodontitis, , arthritis and Alzheimer disease. Signosis developed Inflammation Multiplex PCR Kit, 6 cytokines (TNFa, GM-CSF, IP-10, IL-1b, Rantes, IFNg) will be detected simultaneously by traditional agarose electrophoresis. Unlike fluenscent signal-based real-time PCR, with which specific and non-specific amplification is unable to be identified leading to the erroneous conclusion, Signosis multiplex PCR can specifically detect the expression of multiple cytokines by visualizing on agarose electrophoresis.

Principle

Multiple targets are amplified simultaneously with different primers in one PCR reaction. The resulted products with differential sizes are easily distinguished with regular agarose gel electrophoresis. The parameters of PCR including the primer concentration and the reaction buffer are optimized in order to provide the highest specificity and sensitivity of amplification of multiple targets in one reaction.

Materials provided

- Control cDNA mix
- Human Inflammation PCR primer mix for TNFa, GM-CSF, IP-10, IL-1b, Rantes, IFNg
- PCR buffer mix

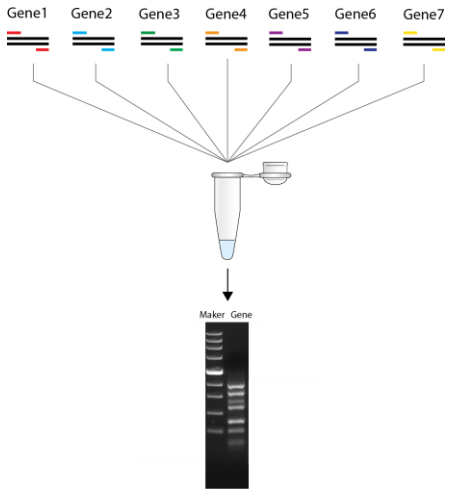

Diagram of Multiplex PCR Kit

Material may be required but not provided

- Sample cDNA
- PCR machine
- House Keeping Gene Multiplex PCR Control Kit (MG-0001)

PCR amplification

(1) Prepare PCR reactions
Mix the following component for one reaction:
18.8 ul PCR buffer mix
0.5 ul control cDNA mix or specific cDNA
0.5 ul PCR primer mix
0.2 ul PCR Polymerase
Note: make a master mix by multiplying the volume by the number of your reactions

(2) Proceed PCR cycles:
Heat the reactions at 94 °C for 30 sec, and proceed PCR for 35 cycles as follows:

94 °C	30 seconds
58 °C	30 seconds
72 °C	30 seconds

Note: PCR cycle can be adjusted according to a specific primer designing.

(3) Run PCR products on 1.5% agarose gel electrophoresis.