The new BD Phosflow™ Human Monocyte/NK Cell Activation Kit is a complete system for the determination of the activation status of six different key phosphoproteins in B cells, monocytes, NK cells, and T cells using whole blood samples. BD Phosflow technology uses a combination of antibodies to cell surface markers and intracellular phosphorylated proteins in optimized fixation and permeabilization buffer systems to examine signal transduction pathways in subpopulations of cells by flow cytometry.1

Protein phosphorylation through the JAK/STAT, ERK, and p38 stress/MAPK pathways is important for cell activation, signaling, and differentiation. Different types of stimuli such as exposure to pathogens or other environmental factors can lead to differential activation of these proteins across a variety of cell types, leading to the expression of important proteins such as cytokines.2-4

This kit contains optimized cocktails and reagents to identify monocytes, NK cells, B cells, and T cells, as well as monoclonal antibody reagents to six important phosphoproteins (summarized in Table 1) provided as Alexa Fluor® 647 conjugates.

CD markers included in the cocktail

Visit bdbiosciences.com/phosflow for more information.
BD Phosflow Human Monocyte/NK Cell Activation Kit

Activation profiles monitored with the BD Phosflow Human Monocyte/NK Cell Activation Kit

B Cells CD19+

Monocytes CD14+

T Cells CD3+

NK Cells CD16/CD56+

Figure 1. Activation profiles of phosphorylated Stat proteins for CD14+ monocytes, CD16/CD56+ NK cells, CD3+ T cells, and CD19+ B cells. Data were collected on a BD FACSCanto™ II flow cytometer and analyzed using Cytobank software. These histograms show the signaling response of each phosphorylation marker induced by the corresponding response modifier as listed in Table 1.

Two Kits Available for the Study of Phosphoproteins from Whole Blood

Phosphorylation and other signaling events are typically transient by nature. Cell separation and other manipulation of samples may lead to alterations of biological results. The BD Phosflow Human Monocyte/NK Cell Activation Kit allows the analysis of phosphoproteins in four key immune populations without prior enrichment of samples.

For researchers specifically interested in T cells, the BD Phosflow™ Human T Cell Activation Kit (Cat. No. 560750) contains antibodies to the same six phosphoproteins with a different cocktail to identify CD3, CD4, and CD8-positive T cells and control T cells.

To facilitate data analysis of BD Phosflow experiments, BD has partnered with Cytobank, a software application developed by leading flow cytometry researchers at Stanford University, to provide free analysis tools. Cytobank software offers easy-to-use web based tools for BD Phosflow data analysis, data visualization, and collaboration. Visit cytobank.org for more information.

References


Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD Phosflow Hu Monocyte/NK Cell Activation Kit</td>
<td>562089</td>
</tr>
</tbody>
</table>

Related Products

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat.No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD Phosflow Hu T Cell Activation Kit</td>
<td>560750</td>
</tr>
</tbody>
</table>