Imprime PGG (Imprime PGG figure 1) is a proprietary, soluble, yeast-extracted glucan being deve-
oped for the treatment of cancer. Imprime PGG leads to anti-tumor activity component admix
tures (a) on innate immune cells (neutrophils and monocytes), enabling these cells to kill tumor cells
that have been exposed to Imprime PGG following targeting to cell surface antigens (antibodies).
Numerous in vitro mechanistic studies have demonstrated that binding of Imprime PGG to
C-reactive protein (CRP) increases the C-reactive protein (CRP) and neutrophil adhesion depen-
dent with complement fixation due to the presence of endogenous complement (antibody).

Pro-inflammatory activity on immu
nocytes. Interleukin (IL)-6 production was sup-
pressed in response to Imprime PGG but not Imprime PGG treatment alone. The results are consistent with a reported effect of Imprime PGG on the expression of IL-6 in human monocytic cells.

In vitro healthy volunteer mechanistic studies have demonstrated that binding of Imprime PGG to
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RESULTS

Figure 4: Imprime PGG enhances neutrophil calcium signaling in response to Staphylococcus aureus (S. aureus). The calcium signaling response of neutrophils to lipopolysaccharide (LPS) in response to the S. aureus strain was used to evaluate the effect of Imprime PGG on calcium flux. Neutrophils were pre-incubated with Imprime PGG (10 µg/mL) for 1 hour prior to stimulation with S. aureus. The calcium flux response was measured using Fluo-4/Calcium Red fluorescence. The results are consistent with a reported effect of Imprime PGG on the expression of IL-6 in human monocytic cells.

Figure 5: Accelerated differentiated neutrophil calcium signaling in response to S. aureus. The calcium signaling response of neutrophils to lipopolysaccharide (LPS) in response to the S. aureus strain was used to evaluate the effect of Imprime PGG on calcium flux. Neutrophils were pre-incubated with Imprime PGG (10 µg/mL) for 1 hour prior to stimulation with S. aureus. The calcium flux response was measured using Fluo-4/Calcium Red fluorescence. The results are consistent with a reported effect of Imprime PGG on the expression of IL-6 in human monocytic cells.

Table 1: Summary of in vitro and in vivo Imprime PGG Studies

Imprime PGG was shown to modulate interleukin-8 signaling in innate immune cells from biomarker positive subjects but not in cells from biomarker negative subjects. Enhanced signaling was demonstrated following stimulation of cells with the classic innate cell activator fMLP. Enhanced signaling was also observed in immune response to immune complexes, which is consistent with a reported effect of Imprime PGG on the expression of IL-6 in human monocytic cells.

In summary, Imprime PGG treatment led to enhanced oxidative burst activity in response to immune complexes, which is consistent with a reported effect of Imprime PGG on the expression of IL-6 in human monocytic cells.

Neutrophil signaling and effector function by Imprime PGG in biomarker positive individuals Provided by: Biothera, Inc., Eagan MN USA 55121

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References


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