**Beta-Glucans – what are they**

Beta-glucans are natural polymers found in the cell walls of bacteria, yeast, fungi, algae, grain and seaweed. They are foreign to the human body. Not all beta-glucans are the same. Those derived from fungi and yeast with a (1,3) beta-linked backbone and with (1,6) beta-linked side chains are potent immune-modulators.1

Beta-glucans from microorganisms are active biological response modifiers and have extensive applications in healthcare, including diabetes, metabolic syndrome, and immune system modulation. 2,3

**Woulgan® Bioactive Beta-Glucan Gel**

A sterile, homogenous viscous gel containing soluble 1,3/1,6 Beta-Glucan (SBG), Glycerol, CMC and water in a 4 g tube.

**References**

7. Novak M, Vetvicka V. Beta-glucans as biological response modifiers. Endocrinology & Metabolic Disorders. 2009;16(1):87-95

**Wound Phase**

- **Remodelling**
  - Fibroblasts
  - Macrophages
  - Fibrocytes
  - Fibroblasts and macrophages stimulate collagen production.
  - Fibroblasts and macrophages may produce cytokines and growth factors.

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**Summary**

Woulgan Gel, containing a bioactive SBG, offers a technological advance in the management of stalled wounds. The release of signal molecules and growth factors from macrophages activates and accelerates healing in stalled wounds.

**References**

1. Novak M, Vetvicka V. Beta-glucans, history and present: Immunomodulatory aspects and mechanisms of biological response modifiers. Endocrinology & Metabolic Disorders. 2009;16(1):87-95
7. Novak M, Vetvicka V. Beta-glucans as biological response modifiers. Endocrinology & Metabolic Disorders. 2009;16(1):87-95

**Figure 1: Macrophage and beta-glucan receptors**