

WGP Soluble

1,3/1,6- β -glucan from *S. cerevisiae*

Catalog # t1rl-wgps

For research use only

Version # 14L12-MM

PRODUCT INFORMATION

Content:

- 50 mg WGP Soluble

Storage and stability:

- WGP Soluble is shipped at room temperature. Store at room temperature. Powder is stable 1 year when properly stored.

- Upon resuspension, WGP Soluble is stable for at least 1 month at 4 °C.

DESCRIPTION

Whole glucan particles (WGP) are beta-glucans notable for their ability to modulate the immune system. InvivoGen provides WGP in two forms, WGP Dispersible (WGP® Dispersible from Biothera), and WGP Soluble (WGP® Soluble from Biothera). WGP Dispersible is a particulate *S. cerevisiae* β -glucan preparation that induces Dectin-1-dependent responses by macrophages and dendritic cells¹.

WGP Soluble is a control for WGP Dispersible, as WGP Soluble binds Dectin-1 without activating this receptor. Furthermore, WGP Soluble significantly blocks the binding of WGP Dispersible to macrophages and its immunostimulatory effect¹. WGP Soluble is obtained after a series of alkaline and acid extractions from *S. cerevisiae* cell wall, followed by additional proprietary steps to remove insoluble portions of the matrix. Similarly to WGP Dispersible, WGP Soluble does not activate TLR receptors².

WGP® Dispersible and WGP® Soluble are registered trademarks of Biothera.

1. Li B. *et al.*, 2007. Yeast glucan particles activate murine resident macrophages to secrete proinflammatory cytokines via MyD88- and Syk kinase-dependent pathways. *Clin Immunol.* 124(2):170-81. 2. Goodridge HS. *et al.*, 2011. Activation of the innate immune receptor Dectin-1 upon formation of a 'phagocytic synapse'. *Nature.* 472(7344):471-5. 3. Schindler U. & Baichwal VR., 1994. Three NF- κ B binding sites in the human E-selectin gene required for maximal tumor necrosis factor alpha-induced expression. *Mol Cell Biol.* 14:5820-5831.

CHEMICAL PROPERTIES

Synonym: 1,3/1,6- β -Glucan

Appearance: Beige to light brown powder

METHODS

Preparation of WGP Soluble solution (1 mg/ml)

- Weigh 10 mg of WGP Soluble.

- Add 10 ml of endotoxin-free water and vortex to homogenize.

- Use immediately or store at 4°C.

Working concentrations:

1 - 200 μ g/ml (when used as a control)

1 ng - 1 μ g/ml (when used as an antagonist)

Example of Dectin-1 inhibition using WGP Soluble

WGP Soluble can be used to inhibit Dectin-1 activity in cells expressing Dectin-1, including the murine macrophage RAW-Blue™ cells. These cells express dectin-1 and an NF- κ B-inducible secreted embryonic alkaline phosphatase (SEAP) gene. For more information visit: www.invivogen.com/raw-blue

- Add 1 ng-1 μ g/ml WGP Soluble to RAW-Blue™ cells (5x10⁵ cells/ml).

- Incubate cells and WGP Soluble for 1 h at 37°C, 5% CO₂.

- Stimulate cells with a dectin-1 ligand, such as 10⁶-10⁷ HKCA cells, 10-100 μ g/ml Zymosan or 10-100 μ g/ml WGP Dispersible for 6 - 24 h at 37°C, 5% CO₂.

- Determine inhibition of dectin-1 activation by assessing SEAP expression using a SEAP detection medium, such as QUANTI-Blue™.

RELATED PRODUCTS

Product	Catalog Code
QUANTI-Blue™	rep-qb1
RAW-Blue™ Cells	raw-sp
WGP Dispersible	t1rl-wgp
Other Dectin-1 ligands:	
Curdlan	t1rl-cura
HKCA (heat killed <i>C.albicans</i>)	t1rl-hkca
HKSC (heat killed <i>S.cerevisiae</i>)	t1rl-hksc
Zymosan (cell wall preparation from <i>S.cerevisiae</i>)	t1rl-zyn
Zymosan depleted (hot alkali treated zymosan)	t1rl-dzn

TECHNICAL SUPPORT

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