**Scleroglucan**

Beta-glucan from *Sclerotium rolfsii*; Dectin-1 ligand

Catalog code: tlrl-scg

https://www.invivogen.com/scleroglucan

For research use only

Version 19K13-MM

**METHODS**

Preparation of scleroglucan suspension (1 mg/ml)

Stimulation of Dectin-1 can be achieved with 1-100 µg/ml of scleroglucan.

1. Weigh 10 mg of scleroglucan in a round-bottom tube.
2. To 10 mg of scleroglucan add 10 ml of water pre-warmed to 37°C. Dispense water in a single expulsion to avoid the formation of clumps.
3. Vortex to homogenize.

Note: Scleroglucan is insoluble and results in non-homogeneous suspension with gelatinous precipitates. Avoid the use of conical tubes.

Detection of scleroglucan-induced dectin-1 activation

Activation of Dectin-1 by scleroglucan can be determined using Dectin-1 expressing cells, such as the murine macrophage RAW-Blue™ cells. These cells express Dectin-1 and a SEAP (secreted embryonic alkaline phosphatase) reporter construct inducible by NF-κB and AP-1. Expression of SEAP can be assessed in the cell supernatant using the SEAP detection medium QUANTI-Blue™ Solution.

1. Add 20 µl of scleroglucan (final concentration 1-100 µg/ml) in a well of a 96-well plate.
2. Add 180 µl of RAW-Blue™ cell suspension (~100,000 cells) per well.
3. Incubate the plate for 20-24 h at 37°C, 5% CO₂.
4. Collect 20 µl of supernatant and add to a well of a 96-well plate containing 180 µl of QUANTI-Blue™.
5. Incubate the plate at 37°C incubator for 1-3 h.
6. Determine SEAP levels using a spectrophotometer at 620-655 nm.

**RELATED PRODUCTS**

<table>
<thead>
<tr>
<th>Product</th>
<th>Cat.Code</th>
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</thead>
<tbody>
<tr>
<td>HEK-Blue™ hDectin-1b Cells</td>
<td>hkb-hde1tb</td>
</tr>
<tr>
<td>RAW-Blue™ Cells</td>
<td>raw-sp</td>
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<tr>
<td>QUANTI-Blue™ Solution</td>
<td>rep-qbs</td>
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<td><strong>Other Dectin-1 ligands:</strong></td>
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<tr>
<td>HKCA (heat killed <em>C.albicans</em>)</td>
<td>tlr-hkca</td>
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<tr>
<td>Zymosan (cell wall preparation from <em>S. cerevisiae</em>)</td>
<td>tlr-zyn</td>
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<tr>
<td>Zymosan depleted (hot alkali treated zymosan)</td>
<td>tlr-dzn</td>
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<tr>
<td>WGP Dispersible (1,3/1,6-β-glucan from <em>S. cerevisiae</em>)</td>
<td>tlr-wgp</td>
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<td>WGP Soluble (control for WGP Dispersible)</td>
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**PRODUCT INFORMATION**

**Contents**

- 100 mg scleroglucan

**Storage and stability:**

- Scleroglucan is shipped at room temperature. Store at room temperature (15-25°C).
- Upon resuspension, scleroglucan is stable for at least 1 month at 2-8°C.

**Quality control:**

- The biological activity has been validated using cellular assays.

**DESCRIPTION**

Scleroglucan is a high molecular weight (>1000 kDa) polysaccharide produced by fermentation of the filamentous fungus *Sclerotium rolfsii*. Scleroglucan consists of a linear β(1-3) D-glucose backbone with one β(1-6) D-glucose side chain every three main residues. Scleroglucan is recognized by Dectin-1 and strongly activates HEK-Blue™ Dectin-1 and RAW-Blue™ cells. Detection of β-glucans by Dectin-1 receptor leads to the CARD9-dependent activation of NF-κB and MAP kinases.


**CHEMICAL PROPERTIES**

**CAS number:** 39464-87-4

**Synonym:** β(1→3.1→6)-glucan

**Partial Structure:**

```
HO
HO
O
O
O
O
HO
OH
HO
OH
O
O
O
O
O
O
n
1 3 1 3
3 1
β β
β
β
```

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