Pustulan
Beta-glucan from *Lasallia pustulata* - Dectin-1 ligand
Catalog # tlrl-pst

For research use only
Version # 13H20-MM

**METHODS**

**Preparation of pustulan suspension (1 mg/ml)**
Stimulation of Dectin-1 can be achieved with 1 - 100 mg/ml of pustulan.
- Weigh 10 mg of pustulan in a round-bottom tube.
- Add 10 ml of water to the 10 mg of pustulan. Vortex to homogenize.
- Dispense water in a single expulsion to avoid the formation of clumps.

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

**Detection of pustulan-induced dectin-1 activation**
Activation of Dectin-1 by pustulan can be determined using Dectin-1 expressing cells, including 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™.

- Add 20 μl of pustulan suspension (suggested concentration range 0.1 - 100 μg/ml) in a well of a 96-well plate.
- Add 180 μl of RAW-Blue™ cell suspension (~100,000 cells) per well.
- Incubate the plate for 20 - 24 h at 37°C, 5% CO₂.
- Collect 50 μl of supernatant and add to a well of a 96-well plate containing 150 μl of QUANTI-Blue™.
- Incubate the plate at 37°C incubator for 1 - 3 h.
- Determine SEAP levels using a spectrophotometer at 620-655 nm.

**RELATED PRODUCTS**

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<th>Product</th>
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<td>raw-sp</td>
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<td>Other Dectin-1 ligands</td>
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<tr>
<td>HKCA (heat killed C.albicans)</td>
<td>tlr-hcka</td>
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<td>HKSC (heat killed S.cerevisiae)</td>
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<td>Lichenan (1,3/1,4-β-glucan from C.islandica)</td>
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<td>Zymosan (cell wall preparation from S.cerevisiae)</td>
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<td>WGP Dispersible (1,3/1,6-β-glucan from S.cerevisiae)</td>
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<td>WGP Soluble (control for WGP Dispersible)</td>
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**PRODUCT INFORMATION**

**Content:**
100 mg pustulan

**Storage and stability:**
- Pustulan is shipped at room temperature. Store at room temperature.
- Upon resuspension, pustulan is stable at least 1 month at 4°C.

**DESCRIPTION**

Pustulan is a median molecular weight (20 kDa), linear (1-6)- linked β-D-glucan from lichen *Lasallia pustulata*. Pustulan is recognized by the membrane bound Dectin-1, a C-type lectin-like pattern recognition receptor. Detection of β-glucans by Dectin-1 receptor leads to the CARD9-dependent activation of NF-κB and MAP kinases. Studies have shown that pustulan can stimulate innate immune responses, inducing heat shock protein expression, eliciting phagocytosis, and production of proinflammatory cytokines.


**CHEMICAL PROPERTIES**

**CAS number:** 37331-28-5

**Synonym:** β(1→6)-glucan

**Appearance:** Off-white to slightly brown powder

**Partial Structure:**

![Partial Structure Image]


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