

Lipopolysaccharide from *E. Coli* O111:B4

Catalog # 9028

*For Research Use Only - Not Human or Therapeutic Use*

DESCRIPTION:	Lipopolysaccharide (LPS) from <i>E. Coli</i> O111:B4 in 0.05M phosphate buffered saline, pH 7.4
APPLICATION:	<p>LPS has two independent unique activities: one is triggering inflammatory reactions and the other is stimulating B-cells to produce antibodies. Use these unique properties of LPS to trigger, synchronize, or enhance the development of arthritis in both collagen-induced arthritis (<a href="#">CIA</a>) and collagen antibody-induced arthritis (<a href="#">CAIA</a>) models.</p> <p>A. CAIA model: Use LPS to trigger arthritis in mice in the presence of sub-arthritis levels of autoantibodies to type II collagen.</p> <ol style="list-style-type: none"><li>1. Inject a sub-arthritis dose of polyclonal antibodies or a cocktail of monoclonal antibodies into mice on day 0 and then inject 25-50 µg of LPS by IP injection to trigger the development of arthritis.</li><li>2. An additional IP injection of LPS on day 7-14 re-activates arthritis.</li></ol> <p>B. CIA model: Use LPS to stimulate autoantibody production and development of arthritis in mice immunized with type II collagen.</p> <ol style="list-style-type: none"><li>1. To synchronize arthritis development: immunize mice with type II collagen/CFA on day 0 and then inject 25-50 µg of LPS by IP injection on day 25-28, just before the expected onset of arthritis.</li><li>2. To stimulate antibody production and development of arthritis: immunize mice with type II collagen/CFA on day 0 and then inject 20-50 µg of LPS by IP injection on day 21 or 28 to increase antibody production and the following development of arthritis.</li><li>3. To reactivate arthritis: Inject 25-50 µg of LPS by IP injection in mice on day 50-80, the late stage of CIA.</li></ol> <p>C. LPS is also used at low levels (0.01-1 µg/ml) as a positive control <i>in vitro</i> for stimulating the production and release of cytokines and chemokines.</p>
QUANTITY:	5 ml
FORM:	0.5 mg/ml solution
SOURCE:	<i>E. Coli</i> O111:B4
STORAGE:	-20°C
STABILITY:	1 year
NOTES:	LPS is a common bacterial toxin and a potent stimulator of the immune system. The recommended protocol for the Arthrogen-CIA® Cocktail utilizes LPS injection to trigger rapid onset of severe arthritis with sub-arthritis doses of antibodies. The optimal dosage of LPS

can vary by mouse strain, animal vendor, and housing conditions. High doses of LPS can be lethal for experimental animals, even 50 µg/mouse, depending on animal conditions. Therefore Chondrex, Inc. recommends first performing a preliminary study without any antibody administration to optimize LPS dosages (50 µg, 25 µg, and possibly 10 µg, testing each dose with several mice) before conducting a large-scale CAIA study.

## REFERENCES:

N/A