

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 (CIA) and collagen antibody-induced arthritis (CAIA) models.</p> <p>A. CAIA model: Use LPS to trigger arthritis in mice in the presence of sub-arthritogenic levels of autoantibodies to type II collagen.</p> <ol style="list-style-type: none">1. Inject a sub-arthritogenic 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.2. An additional IP injection of LPS on day 7-14 re-activates arthritis. <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">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.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.3. To reactivate arthritis: Inject 25-50 µg of LPS by IP injection in mice on day 50-80, the late stage of CIA. <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-arthritogenic doses of antibodies. The optimal dosage of LPS

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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