Arthrogen-CIA® Arthritogenic Monoclonal Antibody

Catalog # 53100

For Research Use Only - Not Human or Therapeutic Use

DESCRIPTION:	Mouse anti-type II collagen 5-clone monoclonal antibody cocktail kit with LPS from *E. Coli* O111:B4
APPLICATION:	Use for collagen antibody induced arthritis (CAIA) in mice
QUANTITY:	Cocktail: 10 mg/ml x 10 ml LPS: 0.5 mg/ml x 7.5 ml
FORM:	A cocktail of 5 monoclonal antibodies dissolved in 0.05M phosphate buffered saline, pH 7.4 which recognize the conserved epitopes on various species of type II collagen: clone A2-10 (IgG2a), F10-21 (IgG2a), D8-6 (IgG2a), D1-2G (IgG2b), and D2-112 (IgG2b). Clones A2-10, D1-2G, and D2-112 recognize individual epitopes clustered within the 167 amino acid peptide fragment called LyC1 (124-290) of the CB11 fragment (124-402). Clones F10-21 and D8-6 recognize epitopes within the 83 amino acid peptide fragment called LyC2 (291-374) of the CB11 fragment.
SOURCE:	Mouse
CROSS-REACTIVITY:	Cross-reacts to most species of type II collagen including mouse, porcine, chick*, bovine, human, rat, monkey, rabbit, equine, and dog. *D2-112 does not cross-react with chick type II collagen.
ANIMALS:	7-8 weeks or older, high responder mice: DBA/1, Balb/c, B10.RIII, C.B-17, scid/scid, or 129/Sv. Low responder mice: C57BL/6 or C57BL/6 background. Sensitivity to CAIA may vary depending on mouse vendor and facility. Specific pathogen free (SPF) housing conditions are strongly recommended over conventional housing conditions as bacterial contamination may reduce the immune response of the animals resulting in an attenuated arthritis. Therefore, running a pilot study using a small number of animals before conducting a large-scale study is strongly recommended. Please contact Chondrex, Inc. customer support (support@chondrex.com) for guidance regarding animals and housing conditions.
USAGE:	Administration of the monoclonal antibody cocktail by IV injection (i.e. tail vein) is recommended; however, intraperitoneal (IP) injection may also be used. Moreover, if LPS use is not desired, please note that the severity of arthritis tends to be lower.
PROTOCOLS:	

A. Inducing arthritis with a combination of the monoclonal antibody cocktail and LPS in CAIA susceptible mice (DBA/1, Balb/c, B10.RIII, C.B-17, scid/scid, or 129/Sv)

   Day 0: Inject 1.5 mg of 5-clone cocktail by IV or IP injection.

   Day 3: Inject 25-50 µg of LPS by IP injection.

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NOTE: Moderate to severe arthritis is observed on day 3-4 and peaks around day 7-10.

B. Inducing arthritis with a combination of the monoclonal antibody cocktail and LPS in CAIA low responder mice (C57BL/6 or C57BL/6 background)

Day 0: Inject 5 mg of 5-clone cocktail by IV or IP injection.

Day 3: Inject 25-50 µg of LPS by IP injection.

NOTE: Moderate to severe arthritis is observed on day 3-4 and peaks around day 7-10. An injection of LPS on day 10-14 can be used to re-stimulate inflammatory arthritis.

C. Inducing arthritis with the monoclonal antibody cocktail without LPS in DBA/1 and Balb/c mice

Day 0: Inject 6-10 mg of 5-clone cocktail by IV injection.

NOTE: Arthritis can be observed on day 2-3. This protocol has not been confirmed in other CAIA susceptible mouse strains such as B10.RIII, C.B-17, scid/scid, or 129/Sv mice.

STORAGE: -80°C

STABILITY: 2 years

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 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:

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