Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Human IL-13 (Tralokinumab) (HEK Expressed)

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.:	I-2110
Clone:	CAT-354
Isotype:	Human IgG4κ

Product Description

Specificity:
This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Tralokinumab. CAT-354 (Tralokinumab) specifically binds to the type 2 cytokine IL-13.

Antigen Distribution:
IL-13 is a cytokine secreted by many cell types but especially T helper type 2 (Th2) cells.

Background:
IL-13 is an important mediator of allergic inflammation and disease[1] that plays a role in the regulation of IgE synthesis, induction of adhesion molecules, and chemokine expression[2]. The functions of IL-13 overlap considerably with those of IL-4[1]. IL-13 induces its effects through a multi-subunit receptor composed of the alpha chain of the IL-4 receptor (IL-4Rα) and an IL-13 binding subunit IL-13Rα1. IL-13 induces many features of allergic lung disease, including airway hyper-responsiveness, goblet cell metaplasia, and mucus hypersecretion, which all contribute to airway obstruction. IL-13 is also associated with the induction of chronic pulmonary eosinophilia and eosinophilic esophagitis[3] and plays a key role in the pathogenesis of atopic dermatitis[4]. Although IL-13 is associated primarily with the induction of airway disease, it also has anti-inflammatory properties[1].

CAT-354 (Tralokinumab) was isolated and optimized using antibody display technologies[3]. Tralokinumab acts as a neutralizing antibody[2] that binds specifically and with high affinity to IL- 13, preventing interaction with the IL-13 receptor[4]. In mice administered human IL-13, tralokinumab blocks human IL-13-induced lung eosinophilia, significantly decreases airway hyper-responsiveness, and inhibits eosinophil recruitment to the esophagus[3]. Tralokinumab does not affect human IL-13-induced goblet cell metaplasia in mouse lungs. Additionally, phase 3 trials produced inconsistent benefits for the treatment of asthma and clinical evaluation was discontinued for this indication[4].

Tralokinumab has been studied and approved for use in atopic dermatitis[4].

Known Reactivity Species:
Human

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

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Formulation
This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥95% by SDS Page, ≥95% monomer by analytical SEC

Endotoxin
≤ 1.0 EU/mg as determined by the LAL method

Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation
Recombinant biosimilar antibodies are manufactured in an animal free facility using only *in vitro* protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Pathogen Testing
To protect mouse colonies from infection by pathogens and to assure that experimental preclinical data is not affected by such pathogens, all of Leinco's recombinant biosimilar antibodies are tested and guaranteed to be negative for all pathogens in the IDEXX IMPACT I Mouse Profile.
Other Applications Reported in Literature:

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ELISA,
ELISA Cap,
FA,
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Country of Origin
USA

References
1 Wynn, TA. et al. (2003) Annu Rev Immunol. 21: 425
2 Kaur D, Hollins F, Woodman L, et al. Allergy. 61(9):1047-1053. 2006.
3 Blanchard C, Mishra A, Saito-Akei H, et al. Clin Exp Allergy. 35(8):1096-1103. 2005.
4 Duggan S. Drugs. 81(14):1657-1663. 2021.
5 Oh CK, Faggioni R, Jin F, et al. Br J Clin Pharmacol. 69(6):645-55. 2010.
6 Singh D, Kane B, Molfino NA, et al. BMC Pulm Med. 10:3. 2010.

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