Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Human IL-5Rα (CD125) (Benralizumab) Fc Muted™

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.: I-2205
Clone: MEDI-563
Isotype: Human IgG1κ
Storage: Sterile 2° to 8°C

Product Description

Specificity:
This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Benralizumab. MEDI-563 (Benralizumab) is an antagonist of human and cynomolgus monkey interleukin-5 receptor alpha chain (IL-5Rα). MEDI-563 does not bind to murine IL-5Rα.

Antigen Distribution:
IL-5Rα is expressed exclusively on mature eosinophils and basophils as well as eosinophil and basophil progenitors in bone marrow.

Background:
Eosinophilic inflammation underlies certain asthma and chronic obstructive pulmonary disease(COPD) phenotypes[1]. IL-5 is the primary cytokine mediating eosinophil mobilization, maturation, activation and survival[2]. Neutralization of IL-5 in murine and nonhuman primate models of asthma results in reduced eosinophil counts and improved lung pathology. Therefore, strategies that deplete lung eosinophils and basophils have been sought to improve asthma control. IL-5Rα was selected as a suitable target because its expression is restricted to eosinophils, basophils and their progenitors in bone marrow.

Benralizumab is a humanized, monoclonal antibody that binds to an epitope in domain 1 of IL-5Rα that overlaps with a portion of the IL-5 binding site[1,2]. Residue I61 is critical for benralizumab binding[2]. Binding inhibits IL-5 receptor signaling independent of the ligand and leads to depletion of eosinophils as well as inhibition of IL-5-mediated cell proliferation[1]. Additionally, in vitro, benralizumab potently induces apoptosis of eosinophils and basophils via antibody-dependent cell-mediated cytotoxicity in the presence of NK effector cells[2]. In cynomolgus monkeys, benralizumab depletes blood and lung eosinophils as well as eosinophil precursors present in bone marrow.

Benralizumab has been approved for the treatment of eosinophilic asthma and chronic obstructive pulmonary disease[1]. This product is for research use only.

Known Reactivity Species:
Cynomolgus Monkey, Human

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Unknown

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.

Applications
Other Applications Reported in Literature:

B,
ELISA,
IHC,
FA

Country of Origin
USA

References
1) Markham A. Drugs. 78(4):505-511. 2018.
2) Kolbeck R, Kozhich A, Koike M, et al. J Allergy Clin Immunol. 125(6):1344-1353.e2. 2010.
3) Busse WW, Katial R, Gossage D, et al. J Allergy Clin Immunol. 125(6):1237-1244.e2. 2010.
4) Laviolette M, Gossage DL, Gauvreau G, et al. J Allergy Clin Immunol. 132(5):1086-1096.e5.2013.
5) FitzGerald JM, Bleecker ER, Nair P, et al. Lancet. 388(10056):2128-2141. 2016.
6) Park HS, Kim MK, Imai N, et al. Int Arch Allergy Immunol. 169(3):135-145. 2016.
7) Bleecker ER, FitzGerald JM, Chanez P, et al. Lancet. 388(10056):2115-2127. 2016.
8) Ferguson GT, FitzGerald JM, Bleecker ER, et al. Lancet Respir Med. 5(7):568-576. 2017.

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