Leinco Technologies, Inc.
excellence in early discovery research™

Human IL-12/23 (Ustekinumab) Antibody

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.:	I-1250
Clone:	CNTO-1275
Isotype:	Human IgG1κ
Storage:	Sterile 2 to 8°C

Product Description

Specificity:
This non-therapeutic biosimilar antibody uses the same variable region sequenceas the therapeutic antibody Ustekinumab. CNTO-1275 (Ustekinumab) activity is directed againstthe p40 subunit of IL-12 and IL-23. This product is research use only.

Antigen Distribution:
IL-12 is produced by dendritic cells, macrophages, neutrophils, and human B-lymphoblastoid cells. IL-23 is mainly secreted by activated dendritic cells, macrophages, or monocytes. Both are produced by activated antigen-presenting cells.

Background:
IL-12 and IL-23 play a role in the differentiation and proliferation of type 1 T-helper cells (Th1)1. IL-12 stimulates IFN-γ and TNF-α production via Th1 differentiation, whereas IL-23 causes activation of IL-17-producing T cells2. IL-12 and IL-23 are members of the IL-12 cytokine family3. Members of the IL-12 family form soluble heterodimers consisting of α and β subunits. IL-12 and IL-23 both have a p40 subunit, and either p40 can bind to the IL-12 β1 receptor1,2,4. IL-23 consists of IL-12p40 and IL-23p193. IL-12 consists of IL-12p40 and IL-12p35.

IL-23 is associated with various autoimmune inflammatory diseases and is particularly highly expressed in psoriasis skin lesions1,2. Furthermore, IL-23 is suspected to play a role in tumorigenesis3. Anti-IL12/23 p40 antibodies antagonize key pathways in inflammatory autoimmune diseases, such as arthritis and colitis1,2.

Ustekinumab was developed from transgenic mice as an antibody against the p40 subunits of IL- 12/231,2. Ustekinumab binds with high affinity and specificity to p40, preventing interaction with the IL-12 β1 receptor found on natural killer cells or T cells and blocking downstream signaling, differentiation, and cytokine production1,2,4. Additionally, ustekinumab inhibits up-regulation of cutaneous lymphocyte antigen, IL-2, IL-2Rα, and IL-12R as well as secretion of IFN-γ, TNF-α, and IL-17A.

Ustekinumab is used in clinical settings to treat plaque psoriasis, Crohn's disease, and ulcerative colitis.

Known Reactivity Species:
Human

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
p40 subunit of IL-12/23

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:
ELISA,
FA,
N

Country of Origin
USA

References
1) Reich K, Yasothan U, Kirkpatrick P. Nat Rev Drug Discov. 8(5):355-356. 2009.
2) Cingoz O. MAbs. 1(3):216-221. 2009.
3) Floss DM, Moll JM, Scheller J. Cells. 9(10):2184. 2020.
4) Kauffman CL, Aria N, Toichi E, et al. J Invest Dermatol. 123(6):1037-1044. 2004.
5) Toichi E, Torres G, McCormick TS, et al. J Immunol. 177(7):4917-4926. 2006.
6) Reddy M, Davis C, Wong J, et al. Cell Immunol. 247(1):1-11. 2007.
7) Krueger GG, Langley RG, Leonardi C, et al. N Engl J Med. 356(6):580-592. 2007.
8) Feagan BG, Sandborn WJ, Gasink C, et al. N Engl J Med. 375(20):1946-1960. 2016.
9) Brok HP, van Meurs M, Blezer E, et al. J Immunol. 169(11):6554-6563. 2002.