

Anti-Human CD3 x BCMA (Teclistamab) [Clone JNJ-64007957]

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.: C970
Clone: JNJ-64007957
Isotype: Human Human IgG4κ

Product Description

Specificity:

This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Teclistamab. This product is for research use only. Teclistamab simultaneously binds CD3ε and B cell maturation antigen (BCMA).

Antigen Distribution:

CD3ε is a T cell surface glycoprotein. BCMA is predominantly expressed on the surface of terminally differentiated B cells and is overexpressed and activated on malignant multiple myeloma B cells (plasmablasts and plasma cells).

Background:

CD3 is an invariant antigen of the T cell TCR (T cell receptor)¹. BCMA is a member of the tumor necrosis factor family of receptors that regulates B cell maturation, proliferation, and survival by activating p38/NF-κB and inducing upregulation of antiapoptotic proteins². BCMA is highly expressed on multiple myeloma (MM) cells and is therefore a target of cancer immunotherapy.

Teclistamab is a humanized IgG4-proline, alanine, alanine (IgG4-PAA) DuoBody CD3xBCMA Bispecific T cell Engager (BiTE) antibody developed for treatment of MM^{2,3}. Teclistamab treatment redirects CD3+ T cells to BCMA-expressing MM cells, leading to the secretion of perforin and certain granzymes from the cytotoxic T cells and ultimately inducing antibody-dependent cell cytotoxicity and tumor cell death of the BCMA-expressing B cells. The process is not specific and MHC I molecules on antigen presenting cells are not involved³. Teclistamab treatment also leads to the secretion of interferon-γ, TNF-α, IL-2, IL-6, IL-8, and IL-10² cytokines are induced^{2,3}. Additionally, activity is increased by the γ-secretase inhibitor LY-411575².

Teclistamab was generated by immunizing OmniRats (Open Monoclonal Technology) with BCMA-Fc recombinant protein and re-cloning hits on a relatively silent IgG4-PAA scaffold². A controlled Fab-arm exchange of a BCMA antibody and a CD3 parental antibody derived from SP34 was then performed. The Fc region of Teclistamab contains S228P/L234A/L235A mutations to minimize its immunological effector functions.

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

Product Datasheet

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Teclistamab has been approved for treatment of MM in patients who demonstrate disease progression despite treatment³.

Known Reactivity Species:

Human

Expression Host:

HEK-293 Cells

Format:

Purified No Carrier Protein

Immunogen:

BCMA-Fc recombinant protein

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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410 Axminster Dr, St. Louis, MO 63026

(800) 538-1145

leincoglobal@leinco.com

Product Datasheet

www.leinco.com

**Agonist,
FA,
FC**

Country of Origin
USA



References

- 1 Mariuzza RA, Agnihotri P, Orban J. J Biol Chem. 295(4):914-925. 2020.
- 2 Pillarisetti K, Powers G, Luistro L, et al. Blood Adv. 4(18):4538-4549. 2020.
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- 4 Usmani SZ, Garfall AL, van de Donk NWCJ, et al. Lancet. 398(10301):665-674. 2021.
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- 6 Glatte B, Wenk K, Grahnert A, et al. Blood Adv. 7(15):3842-3845. 2023.
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