Product Data Sheet

Product Name: Secukinumab
Cat. No.: GC19532

Chemical Properties

Cas. No.	875356-43-7		
Formula	$C_{6584}H_{10134}N_{1754}O_{2042}S_{44}$	M.Wt	147941.89
Solubility		Storage	Store at 4°C, Do not freeze
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Secukinumab		

Protocol

Cell experiment [1]:

Cell lines	CMSC cells(Human chorionic derived mesenchymal stem cells)
Preparation Method	Secukinumab was collected and purified from transduced CMSC cells. Cultured human dermal fibroblasts were incubated with IL-17A (15 ng/ml) in the presence of increasing concentrations of the secukinumab antibody(2-3 μg). After 48 hours the production of IL-6 in these cells was quantified using an ELISA kit (Abcam, UK) as an indicator of secukinumab functionality.
Reaction Conditions	2-3 μg; 48h

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Applications	After 72 hours reduced IL-6 secretions from fibroblasts confirmed the inhibitory activity of secukinumab on human IL-17.

Animal experiment [2]:

Animal models	Balb/c female mice
Preparation Method	The mice in the control group received 100 μL phosphate-buffered saline (PBS), while the mice in other groups received 100 μL (100 μg) BLM in PBS subcutaneously (sc) every day for 4 weeks. In addition, mice in groups 3 and 5 received secukinumab at a dose of 10 mg/kg/wk sc, and mice in the groups 4 and 5 received oral metformin 50 mg/kg/d for 28 days.
Dosage form	10 mg/kg/wk sc
Applications	Secukinumab and metformin ameliorated dermal fibrosis.

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References:

[1]. Fallah A, et al. Biosimilar Gene Therapy: Investigational Assessment of Secukinumab Gene Therapy. Cell J. 2020 Jan;21(4):433-443.

[2]. Karatas A, et al. Secukinumab and metformin ameliorate dermal fibrosis by decreasing tissue interleukin-17 levels in bleomycin-induced dermal fibrosis. Int J Rheum Dis. 2021 Jun;24(6):795-802.

Background

Secukinumab, as an anti-interleukin-17A monoclonal antibody, usually used for treatment with the ankylosing spondylitis[1].

In vitro experiment it indicated that when IL-17A at 956.2 ng/mL, secukinumab was obviously less potent[2].

In vivo clinical trail it suggested that treatment with 150 mg secukinumab subcutaneously or intravenously in patients remarkedly reduced the signs and symptoms of ankylosing spondylitis at week 16. While treatment with 75 mg secukinumab subcutaneously caused obvious improvement only with a higher intravenous loading dose.[1] Secukinumab has a highly favorable safety profile. In clinical test it demonstrated that treatment with 300 mg secukinumab, for occurs at a rate of 3.55/100 subject-years of mucocutaneous candidiasis, these infections usually do not interfere with maintenance of secukinumab therapy. Thus, secukinumab has an effictive new treatment for individuals with moderate-to-severe psoriasis.[3] In pivotal phase III trials, at dose of 75–150 mg and 75–300 mg secukinumab subcutaneously in

pediatric patients aged 6 to < 18 years, there is an markedly improvemnet compared with placebo. It is suggested that secukinumab improved health-related quality of life and was generally well tolerated. [4] In efficacy trail it indicated that in received subcutaneous secukinumab 150?mg with (LD) or without (NL) loading dose patients or placebo weekly, secukinumab significantly improved the signs and symptoms of nr-axSpA across patients grouped by C-reactive protein (+/?) and/or magnetic resonance imaging (+/?) status, HLA-B27 (+/?) status, and sex[5].

References:

[1]Baeten D, et al. Secukinumab, an Interleukin-17A Inhibitor, in Ankylosing Spondylitis. N Engl J Med. 2015 Dec 24;373(26):2534-48.
[2]Adams R, et al. Bimekizumab, a Novel Humanized IgG1 Antibody That Neutralizes Both IL-17A and IL-17F. Front Immunol. 2020 Aug 21;11:1894.
[3]Blauvelt A. Safety of secukinumab in the treatment of psoriasis. Expert Opin Drug Saf. 2016 Oct;15(10):1413-20.
[4]Blair HA. Secukinumab: A Review in Moderate to Severe Pediatric Plaque Psoriasis. Paediatr Drugs. 2021 Nov;23(6):601-608.
[5]Braun J, et al. Secukinumab in non-radiographic axial spondyloarthritis: subgroup analysis based on key baseline characteristics from a randomized phase III study, PREVENT. Arthritis Res Ther. 2021 Sep 4;23(1):231.