What is Cosentyx® (secukinumab)?

Cosentyx is the first of a new class of medicines called interleukin-17A (IL-17A) inhibitors to be approved for the treatment of moderate-to-severe plaque psoriasis, active psoriatic arthritis (PsA) and active ankylosing spondylitis (AS).

Cosentyx is a fully human monoclonal antibody that selectively blocks circulating Interleukin-17A (IL-17A)[1].

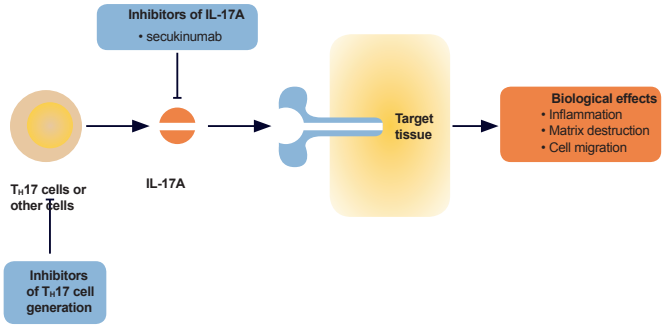
What is IL-17A?

IL-17A is one of many proteins in the body called cytokines that help protect the body against infections[2]. Cytokines usually work by signalling to infection-fighting cells that they need to mount an immune response once foreign invaders, such as bacteria or other disease causing germs, have been detected[2].

If the body produces too much of a particular cytokine, it can trigger problems, including pain and tissue damage. IL-17A has been identified as playing a key role in a number of immune-mediated diseases such as psoriasis, PsA and AS[3]. Higher concentrations of IL-17A are found near the skin of people with psoriasis, and in the joints and spine in people suffering from PsA and AS[4,5]. IL-17A is, therefore, considered an optimal target for therapies in these disease areas[2,3].

How does Cosentyx work?

Cosentyx selectively identifies and binds to circulating IL-17A, preventing it from binding with cell receptors. This action disables IL-17A activity and its ability to cause inflammation.



In psoriasis, reduction in inflammation decreases the associated symptoms such as redness, itching and swelling. It also slows the characteristic fast growth of new skin cells and buildup of cells on the skin's surface, known as plaques[6]. In PsA and AS, the inhibition of IL-17A leads to less tender and swollen joints and better function[7,8,9].

Why is there a need for new treatment?

Psoriasis doesn't only affect the skin. It is a systemic, chronic (long-lasting), and distressing disease that can negatively affect all aspects of daily life[10]. Psoriasis has been shown to regularly limit people's ability to undertake daily, work and social activities, and also impacts their mental and emotional health[10]. Psoriasis is also associated with other serious health conditions, such as depression, diabetes and heart disease[11]. PsA and AS, if not treated effectively, can lead to irreversible damage to the joints and spine, causing life-long pain and disability[4]. PsA and AS are also associated with significant reduced life expectancy and represent a major economic burden for society[12].

New medicines with an alternative way of working are needed urgently as many patients do not tolerate or achieve an adequate response from current treatments such as anti-tumor necrosis factor (anti-TNF) therapies, and in PsA and AS, disease-modifying anti-rheumatic drugs (DMARDs) and non-steroidal anti-inflammatories.

- 45% of PsA patients are dissatisfied with their treatments[3]
- 40% of AS patients do not respond sufficiently to anti-TNF therapies[4]
- 52% of patients with mild, moderate and severe psoriasis are dissatisfied with their disease management[3]

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Prevalence [15-22]

	Psoriasis	PsA	AS
Global	Up to 3% / >125 million	71 million	13 million
EU	0.8% ~ 3.7 million Europeans	3.1million	1.78 million
USA	~7.5 million people	~3.2 million	Up to 0.5% of population ~500,000 people

Cosentyx is currently authorized for the treatment of[23]:*

- **Psoriasis:** Adults with moderate-to-severe plaque psoriasis who are candidates for systemic therapy
- **PsA:** Adults with active PsA who have not responded adequately to previous DMARDs
- **AS:** Adults with active AS who have responded inadequately to conventional therapy

Where is Cosentyx currently licensed for use?[24]

Psoriasis: Cosentyx is approved in over 50 countries for the treatment of moderate-to-severe plaque psoriasis which includes the European Union countries, Japan, Switzerland, Australia, the US and Canada.

- In Europe, Cosentyx is approved as a first-line systemic treatment of moderate-to-severe plaque psoriasis in adult patients
- In the US, Cosentyx is approved as a treatment for moderate-to-severe plaque psoriasis in adult patients who are candidates for systemic therapy or phototherapy (light therapy)

PsA and AS: Cosentyx is the first IL-17A inhibitor to be made available in Europe and the US for the treatment of PsA and AS. For AS, this is the first new treatment advance in 16 years since the development of the first anti-tumor necrosis factor (anti-TNF) therapy.

In addition, Cosentyx is approved in Ecuador, Bangladesh, South Korea and the Philippines for PsA and AS, and for the treatment of PsA and pustular psoriasis in Japan.

More than 9,600 patients have been treated with Cosentyx in clinical trials across multiple indications, and over 18,000 patients with psoriasis have already been treated in the post-marketing setting[24]. Cosentyx has demonstrated a favourable safety profile across multiple indications[23]. The risk-benefit assessment has not changed in the post-market setting[24].

Cosentyx in clinical trials

To date, Cosentyx data have achieved major publications in the New England Journal of Medicine (NEJM) and The Lancet:

- **Psoriasis:** ERASURE data published in NEJM showed that 81.6% of patients achieved 75% skin clearance (PASI 75 response) at Week 12 with Cosentyx 300 mg and 71.6% with Cosentyx 150 mg[25]. Cosentyx reached all secondary end points with 59% of patients on Cosentyx 300 mg and 39% of patients on Cosentyx 150 mg reaching PASI 90 response at Week 12 versus 1.2% on placebo
- **PsA:** Study results, from FUTURE 1 and FUTURE 2, were published in NEJM[8] and The Lancet[7]. After two years of treatment, 67% of patients treated with Cosentyx 150 mg achieved an ACR 20 response (American College of Rheumatology response criteria) in FUTURE 1. In FUTURE 2, improvements seen with Cosentyx 150 mg and 300 mg were sustained over one year of treatment in 64% of patients as measured by ACR 20. In FUTURE 1 at two years, 84% of patients showed no radiographic progression in joint damage
- **AS:** Two pivotal studies, MEASURE 1 and MEASURE 2, published in NEJM demonstrated significant clinical improvements with Cosentyx versus placebo in the signs and symptoms of active AS[9]. In MEASURE 1 the Assessment of Spondyloarthritis International Society response criteria (ASAS20) response rates at week 16 were 60% and 61% for Cosentyx 75 mg and 150 mg respectively. In MEASURE 2, the rates were 41% and 61% for 75 mg and 150 mg. In MEASURE 2 improvements in the signs and symptoms of AS were sustained through 52 weeks of treatment; 74% of patients achieved ASAS20 response at one year[9]. A sub-study showed up to 80% of AS patients treated with Cosentyx had no radiographic progression in the spine or joints over two years[1].

The ERASURE, FUTURE 1 and 2 and MEASURE 1 and 2 studies are multi-center, randomized, placebo-controlled studies designed to evaluate the efficacy and safety of Cosentyx in psoriasis, AS and PsA [7,8,9]. Additional follow-up of patients from these trials is still ongoing[7,8,9].

* Please refer to guidelines and full prescribing information in your country for further information

Novartis continues to investigate Cosentyx for its potential role in preventing radiographic progression of spinal and joint structural damage in AS and PsA patients respectively, as shown by x-ray.

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