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Novartis presents data to advance understanding of the role of IL-17A and reinforce Cosentyx® leadership in spondyloarthritis

- *26 abstracts on Cosentyx® (secukinumab) in ankylosing spondylitis (AS) and psoriatic arthritis (PsA) will be presented at the Annual European Congress of Rheumatology (EULAR 2018)[1]*

- *Breadth of data covers updates on radiographic progression, quality of life and real-world evidence of patient satisfaction with Cosentyx – including 9 abstracts on AS, putting Novartis at the forefront of driving scientific understanding of this debilitating disease[1]*

- *Cosentyx specifically inhibits IL-17A, a cornerstone cytokine involved in the development of AS and PsA[2-6]. To date, Cosentyx has been prescribed to more than 150,000 patients to worldwide[7]*

Basel, June 13, 2018 – Novartis will attend the Annual European Congress of Rheumatology (EULAR 2018) with 26 accepted abstracts reinforcing the roles of Cosentyx® (secukinumab) and IL-17A, cornerstone cytokine in the development of ankylosing spondylitis (AS) and psoriatic arthritis (PsA)[1]. EULAR 2018 will be taking place June 13-16, in Amsterdam, Netherlands.

“For patients living with PsA and AS it is crucial to have therapy options that could help slow down the disease and maintain mobility,” said Professor Robert Landewé, Professor of Rheumatology, Academic Medical Centre, Amsterdam, the Netherlands. “The strong data flow on IL-17A at EULAR enhances scientific understanding and advances knowledge on how to best manage these progressive and painful diseases.”

“I would like to thank the patients who participated in our trials as well as the investigators and sites who worked with us to run the studies being presented at EULAR 2018,” said Eric Hughes, Global Development Unit Head, Immunology, Hepatology and Dermatology. “Collaboration is a key component in driving scientific understanding of spondyloarthritis forward, broadening treatment options for clinicians and, ultimately, improving patient outcomes.”

Abstracts accepted at EULAR 2018 include new radiographic progression data in AS and PsA, as well as real-world evidence of patient satisfaction with Cosentyx[1].

<u>Inhibition of radiographic progression in PsA</u>
FUTURE 5 radiographic data show Cosentyx inhibits progression of psoriatic arthritis (PsA) out to Week 24[8]. Radiographic progression in PsA may lead to mobility loss, and even to disability, a major patient concern[9]. *(Abstract: Van der Heijde D et al., Subcutaneous secukinumab inhibits radiographic progression in psoriatic arthritis: analysis by prior anti-TNF therapy and concomitant methotrexate use.)* <u>Link</u>

<u>No radiographic progression in AS</u>

Data from MEASURE 1 show almost 80% of ankylosing spondylitis (AS) patients on Cosentyx have no radiographic progression of the spine at 4 years[10]. *(Abstract: Baraliakos X et al., Secukinumab demonstrates low radiographic progression and sustained efficacy through 4 years in patients with active ankylosing spondylitis.)* Link

Patient satisfaction with Cosentyx in AS
Real-world evidence shows that over 90% of AS patients who were treated with Cosentyx for 3 months or more were satisfied with their overall symptom improvement and most patients (74%) indicated overall symptom improvement to be better with Cosentyx compared to their previous treatment[11]. *(Abstract: Magrey M et al. Treatment experience and satisfaction in ankylosing spondylitis patients treated with secukinumab: results from a US web-based survey.)* Link

Sustainable efficacy and safety with Cosentyx through 4 years in AS
Data from MEASURE 2 study demonstrate Cosentyx provides sustained improvement in signs and symptoms of AS through 4 years with a consistent and favorable safety profile[12]. *(Abstract: Marzo-Ortega H et al. Secukinumab 150 mg provides sustained improvements in the signs and symptoms of active ankylosing spondylitis with high retention rate: 4-year results from the Phase III trial, MEASURE 2.)* Link

About Cosentyx (secukinumab)
Cosentyx is the first fully-human biologic that specifically inhibits IL-17A, a cornerstone cytokine involved in the inflammation and development of AS, PsA and psoriasis[2-6]. IL-17A is produced by various cells from both the innate immune system (which can be triggered by mechanical stress) and the adaptive immune system[6]. By acting directly on IL-17A, Cosentyx inhibits the disease irrespective of the source of IL-17A.

These data add to a growing body of evidence showing the unique position of Cosentyx with long-lasting efficacy and a proven safety profile to treat AS, PsA and moderate-to-severe psoriasis[13-16]. To date, Cosentyx has been prescribed to more than 150,000 patients worldwide[7].

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References

1. The Annual European Congress of Rheumatology – List of Accepted Abstracts. Available at: https://b-com.mci-group.com/AbstractList/EULAR2018.aspx. Last accessed June 2018.
2. Cosentyx Summary of Product Characteristics. Novartis Europharm Limited. Available at: http://www.ema.europa.eu/ema/index.jsp?curl=pages/medicines/human/medicines/003729/human_med_001832.jsp&mid=WC0b01ac058001d124. Last accessed June 2018.
3. Smith JA et al. Review: The Interleukin 23/Interleukin 17 Axis in Spondyloarthritis Pathogenesis: Th17 and Beyond. Arthritis Rheumatol 2014; 66: 231–41.
4. Nestle FO et al. Mechanisms of disease psoriasis. N Eng J Med 2009; 361: 496–509.
5. Girolomoni G et al. Psoriasis: rationale for targeting interleukin-17. Br J Dermatol 2012; 167: 717–24.
6. Schett G et al. Enthesitis: from pathophysiology to treatment. Nat Rev Rheumatol 2017 ;13(12): 731-741.
7. Novartis. Data on file.
8. Van der Heijde D et al. Subcutaneous secukinumab inhibits radiographic progression in psoriatic arthritis: analysis by prior anti-TNF therapy and concomitant methotrexate use. Abstract presented at the EULAR 2018 Annual Meeting, Amsterdam, Netherlands. 15 June 2018.
9. Mease PJ, Armstrong AW. Managing patients with psoriatic disease: the diagnosis and pharmacologic treatment of psoriatic arthritis in patients with psoriasis. Drugs 2014; 74: 423–441.
10. Baraliakos X et al. Secukinumab demonstrates low radiographic progression and sustained efficacy through 4 years in patients with active ankylosing spondylitis. Abstract presented at the EULAR 2018 Annual Meeting, Amsterdam, Netherlands. 16 June 2018.
11. Magrey M et al. Treatment experience and satisfaction in ankylosing spondylitis patients treated with secukinumab: results from a US web-based survey. Abstract presented at the EULAR 2018 Annual Meeting, Amsterdam, Netherlands. 16 June 2018.
12. Marzo-Ortega H et al. Secukinumab 150 mg provides sustained improvements in the signs and symptoms of active ankylosing spondylitis with high retention rate: 4-year results from the Phase III trial, MEASURE 2. Abstract presented at the EULAR 2018 Annual Meeting, Amsterdam, Netherlands. 16 June 2018.
13. Bissonnette R et al. Secukinumab Demonstrates High Sustained Efficacy and a Favorable Safety Profile in Patients with Moderate to Severe Psoriasis through 5 Years of Treatment (SCULPTURE Extension Study). J Eur Acad Dermatol Venereol. ePub ahead of print. doi:10.1111/jdv.14878.
14. Reich K et al. Secukinumab, a fully human anti-interleukin-17A monoclonal antibody, exhibits minimal immunogenicity in patients with moderate-to-severe plaque psoriasis. Br J Dermatol. 2017; 176: 752-58.
15. Mease PJet al. Secukinumab provides sustained improvements in the signs and symptoms of active psoriatic arthritis through 3 years: efficacy and safety results from a phase 3 trial. Ann Rheum Dis. 2017; 76: 952–953.

16. Braun J et al. Secukinumab demonstrates low radiographic progression and sustained efficacy through 4 years in patients with active ankylosing spondylitis. Late breaking abstract presented at the 2017 ACR/ARHP Annual Meeting, San Diego, USA. 7th November 2017.

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