

Novartis International AG
Novartis Global Communications

CH-4002 Basel Switzerland

http://www.novartis.com

MEDIA RELEASE • COMMUNIQUE AUX MEDIAS • MEDIENMITTEILUNG

Novartis' Xolair® confirms re-treatment efficacy in chronic spontaneous urticaria patients after treatment interruption

- OPTIMA Phase IIIb data re-confirm that almost two thirds of patients treated with Xolair 300 mg for 6 months are well-controlled¹
- Should a treatment pause be necessary, data showed almost 90% of chronic spontaneous urticaria (CSU) patients – previously well controlled – regained effective symptom control within 12 weeks of re-treatment on Xolair²
- Previous studies have shown that inadequately controlled CSU has a major impact on sleep, social lives and work³

Basel, September 16, 2017 — Novartis, a global leader in Immunology & Dermatology, announced today new data showing almost 90% of chronic spontaneous urticaria (CSU) patients who responded well to initial Xolair[®] (omalizumab) treatment regained symptom control within 12 weeks of Xolair retreatment following a treatment interruption, based on Weekly Urticaria Activity Score (UAS7) criteria (UAS7≤6)². Findings were presented at the 26th European Academy of Dermatology and Venereology (EADV) Congress in Geneva, Switzerland.

CSU is a distressing skin condition that appears spontaneously and causes persistent hives and/or painful deeper swelling of the skin for 6 weeks or more⁴. International treatment guidelines state that the goal of treatment for CSU is the complete elimination of symptoms^{5,6}. For CSU patients who have not successfully controlled their symptoms with H1 antihistamine (H1-antagonists) treatment, Xolair can reduce or eliminate symptoms^{4,7,8}. Xolair is the first and only approved therapy for CSU patients who show an inadequate response to H1 antihistamines.

"CSU can have a severe impact on quality of life. Its unpredictable nature, combined with the fact that some physicians mistakenly dismiss it as a trivial condition, can mean patients do not get adequate treatment with effective and long-term symptoms control," said Vas Narasimhan, Global Head, Drug Development and Chief Medical Officer, Novartis. "If for some reason treatment has been interrupted, these data give patients and physicians confidence that it's possible to regain effective symptom control with Xolair."

In the OPTIMA study, 314 participants with symptoms of CSU despite taking H1 antihistamines were randomized to 24 weeks of treatment with either Xolair 150 mg or 300 mg. Individuals who responded well to this initial treatment (UAS7≤6) underwent a pause in treatment and then, if symptoms returned (UAS7>16), were retreated². Symptom control (UAS7≤6) was achieved in almost 90% of retreated patients within three months². Xolair was well-tolerated at both doses and during both dosing periods².

Further data from OPTIMA showed that, after 24 weeks of treatment, 65% of participants treated monthly with Xolair 300 mg were well-controlled (UAS7≤6) compared to 15% treated with 150 mg². Between 8 and 24 weeks of treatment, 79% of patients starting on Xolair 150

mg were not well-controlled (UAS7>6) and had their dose increased to 300 mg¹. After 3 additional doses (300 mg), 45% of these patients achieved symptom control – indicating the importance of up-dosing in some patients¹.

About chronic urticaria and CSU

Chronic urticaria (CU) is a severe disease that is characterized by the reoccurrence of persistent hives and/or sometimes painful deeper swelling of the skin for 6 weeks or more⁴. At any given time, the prevalence of CU is up to 1% of the world's population, and up to two thirds of these patients have CSU⁶ – a form of the condition that can occur unpredictably without an identifiable trigger^{6,9}. Patients with CU remain symptomatic on average for about 5 years, but in some patients, symptoms may persist for decades¹⁰.

Although CU has a significant impact on patients' quality of life, research has highlighted that some physicians disregard the disease as a trivial condition ^{10,11}.

About OPTIMA

OPTIMA is a Phase IIIb, international, multicenter, randomized, open-label, non-comparator study. A total of 314 patients with CSU experiencing symptoms despite treatment with H_1 -antagonists were initially randomized 4:3 to Xolair 150 or 300 mg for 24 weeks in the first dosing period. Based on UAS7, patients then entered one of the following phases: step-up to 300 mg (if treated initially with 150 mg and UAS7>6 at any visit between week 8-24), or withdrawal period (if UAS7≤6), or continued treatment for 12 weeks (if treated initially with 300 mg and UAS7>6 at week 24).

About Xolair

Xolair is a targeted therapy that binds to immunoglobulin E (IgE). In allergic diseases and asthma, the binding of IgE by Xolair reduces symptoms by suppressing multiple cell activation mechanisms, including some that result in histamine release. Research is ongoing to understand the mechanism of action of Xolair in CSU, which could lead to a deeper understanding of how the disease develops.

Xolair is approved for the treatment of CSU in over 80 countries including the European Union and for chronic idiopathic urticaria (CIU) as it is known in the US and Canada. Xolair is approved for the treatment of moderate-to-severe or severe persistent allergic asthma in more than 90 countries, including the US since 2003 and the EU since 2005 and has over 800,000 patient years of exposure. In addition, a liquid formulation of Xolair in pre-filled syringes has been approved in the EU and 10 countries outside of the EU, including Canada and Australia. In the US, Novartis Pharmaceuticals Corporation and Genentech, Inc. work together to develop and co-promote Xolair.

About Novartis Immunology & Dermatology

Novartis is a global leader in Immunology & Dermatology. We are transforming the lives of people living with immunologic diseases, focusing on specialty dermatology, rheumatology, auto-inflammatory, transplant and specialty liver diseases where high unmet medical needs exist. Our leading brand Cosentyx® (secukinumab) is an innovative biologic approved in more than 70 markets for the treatment of moderate-to-severe psoriasis (PsO), ankylosing spondylitis (AS) and psoriatic arthritis (PsA). Other key brands include Xolair® (omalizumab)* in chronic spontaneous urticaria (CSU), Zortress®/Certican® and Myfortic® in transplant and llaris® (canakinumab), approved to treat several rare diseases including some Periodic Fever Syndromes. Our I&D pipeline includes multiple compounds in liver disease.

^{*}In the US, Novartis Pharmaceuticals Corporation and Genentech, Inc. work together to develop and co-promote Xolair.

Disclaimer

This press release contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995. Forward-looking statements can generally be identified by words such as "potential," "can," "will," "plan," "expect," "anticipate," "look forward." "believe." "committed." "investigational." "pipeline." "launch." or similar terms. or by express or implied discussions regarding potential marketing approvals, new indications or labeling for the investigational or approved products described in this press release, or regarding potential future revenues from such products. You should not place undue reliance on these statements. Such forward-looking statements are based on our current beliefs and expectations regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. There can be no guarantee that the investigational or approved products described in this press release will be submitted or approved for sale or for any additional indications or labeling in any market, or at any particular time. Nor can there be any quarantee that such products will be commercially successful in the future. In particular, our expectations regarding such products could be affected by, among other things, the uncertainties inherent in research and development, including clinical trial results and additional analysis of existing clinical data; regulatory actions or delays or government regulation generally; our ability to obtain or maintain proprietary intellectual property protection; the particular prescribing preferences of physicians and patients; global trends toward health care cost containment, including government, payor and general public pricing and reimbursement pressures; general economic and industry conditions, including the effects of the persistently weak economic and financial environment in many countries; safety, quality or manufacturing issues, and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Novartis

Novartis provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, cost-saving generic and biosimilar pharmaceuticals and eye care. Novartis has leading positions globally in each of these areas. In 2016, the Group achieved net sales of USD 48.5 billion, while R&D throughout the Group amounted to approximately USD 9.0 billion. Novartis Group companies employ approximately 119,000 full-time-equivalent associates. Novartis products are sold in approximately 155 countries around the world. For more information, please visit http://www.novartis.com.

Novartis is on Twitter. Sign up to follow @Novartis at http://twitter.com/novartis For Novartis multimedia content, please visit www.novartis.com/news/media-library For questions about the site or required registration, please contact media.relations@novartis.com

References

- Gulliver W et al. Omalizumab Dose Step-Up and Treatment Response in Patients With Chronic Idiopathic Urticaria / Chronic Spontaneous Urticaria: Results from the OPTIMA Study. Poster presented at the 26th Congress of the European Academy of Dermatology and Venereology (EADV), 13-17 September 2017.
- Lynde C et al. Omalizumab Retreatment of Patients With Chronic Idiopathic Urticaria / Chronic Spontaneous Urticaria Following Return of Symptoms: Primary Results of the OPTIMA Study. Presented at the 26th Congress of the European Academy of Dermatology and Venereology (EADV), 13-17 September 2017.
- 3. Maurer M et al. The burden of chronic spontaneous urticaria is substantial: Real-world evidence from ASSURE-CSU. Allergy 2017. Advanced online publication. DOI:10.1111/all.13209

- Saini S, Bindslev-Jensen C, Maurer M et al. Efficacy and Safety of Omalizumab in Patients with Chronic Idiopathic/Spontaneous Urticaria Who Remain Symptomatic on H1 Antihistamines: A Randomized, Placebo-Controlled Study. J Investigative Dermatology 2014;135:67-75
- 5. Zuberbier T et al. The EAACI/GA(2) LEN/EDF/WAO Guideline for the definition, classification, diagnosis, and management of urticaria: the 2013 revision and update. Allergy 2014; 69(7):e1-29.
- Maurer M et al. Unmet clinical needs in chronic spontaneous urticaria. A GA2LEN task force report. Allergy 2011; 66: 317-330.
- 7. Maurer M, Rosén K, Hsieh HJ et al. Omalizumab for the treatment of chronic idiopathic or spontaneous urticaria. NEJM. 2013; 368(10):924-35.
- Kaplan A, Ledford D, Ashby M et al. Omalizumab in patients with symptomatic chronic idiopathic/spontaneous urticaria despite standard combination therapy. J Allergy Clin Immunol. 2013 Jul;132(1):101-9.
- British Association of Dermatologists. Urticaria and angioedema. Available online at: http://www.bad.org.uk/shared/get-file.ashx?id=184&itemtype=document_Last accessed June 2017.
- 10. Sánchez-Borges M et al. Diagnosis and Treatment of Urticaria and Angioedema: A Worldwide Perspective. WAO Journal 2012; 5: 125-147.
- 11. O'Donnell BF et al. The impact of chronic urticaria on the quality of life. British Journal of Dermatology 1997; 136: 197-201.

###

Novartis Media Relations

Central media line: +41 61 324 2200 E-mail: media.relations@novartis.com

Eric Althoff
Novartis Global Media Relations
+41 61 324 7999 (direct)
+41 79 593 4202 (mobile)
eric althoff@novartis.com

Friedrich von Heyl Novartis Global Pharma Communications +41 61 324 8984 (direct) +41 79 749 0286 (mobile) friedrich.vonheyl@novartis.com

Novartis Investor Relations

Central investor relations line: +41 61 324 7944

E-mail: investor.relations@novartis.com

 Central
 North America

 Samir Shah
 +41 61 324 7944
 Richard Pulik
 +1 212 830 2448

 Pierre-Michel Bringer
 +41 61 324 1065
 Cory Twining
 +1 212 830 2417

 Thomas Hungerbuehler
 +41 61 324 8425

 Isabella Zinck
 +41 61 324 7188