Novartis International AG
Novartis Global Communications
CH-4002 Basel
Switzerland

https://www.novartis.com
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MEDIA UPDATE

European Medicines Agency (EMA) approves safety label update for Novartis Beovu®

- *Novartis worked with the EMA to update the Beovu® (brolucizumab) label to guide physicians in their treatment of wet AMD*
- *The update includes the additional characterization of retinal vasculitis and/or retinal vascular occlusion, typically in the presence of intraocular inflammation*[1]
- *Novartis has established a multidisciplinary panel of internal experts collaborating with external advisors to examine the root cause, potential risk factors and mitigation of these adverse events*
- *Novartis is confident that Beovu continues to represent an important treatment option for patients with wet AMD, with an overall favorable benefit/risk profile*

Basel, September 14, 2020 — Novartis announced today that the Committee for Medicinal Products for Human Use (CHMP), has approved an update to the Beovu® (brolucizumab) Summary of Product Characteristics (SmPC) to include additional information regarding retinal vasculitis and retinal vascular occlusion[1]. Typically, these events occurred in the presence of intraocular inflammation. This approval follows Novartis' announcement that it would pursue worldwide label updates after a review and further characterization of post-marketing safety events reported to Novartis.

The update to the EU label includes the addition of retinal vasculitis and/or retinal vascular occlusion, typically in the presence of intraocular inflammation under "Special warnings and precautions for use" (section 4.4) and "Undesirable effect" (section 4.8). The label notes that patients developing these events should discontinue treatment and the events should be promptly managed[1].

"This label update is one of the many efforts Novartis is taking to help physicians make informed decisions," said Marcia Kayath, Global Head of Medical Affairs and Chief Medical Officer, Novartis Pharmaceuticals. "Novartis is committed to fully understanding and transparently communicating the safety profile of Beovu. To this purpose, we have established a coalition, which is a fully dedicated internal team collaborating with top global experts to examine the root cause, risk factors, mitigation and potential treatment recommendations."

The label update is applicable to all 27 European Union member states as well as the UK, Iceland, Norway and Liechtenstein[1]. Beovu is now approved for the treatment of wet AMD in more than 40 countries, including in the US[2], EU[1], UK[1], Japan[3], Canada[4] and Australia[5].

About Beovu (brolucizumab)
Beovu (brolucizumab, also known as RTH258) is the most clinically advanced humanized single-chain antibody fragment (scFv)[6-8]. Single-chain antibody fragments are highly sought after in drug development due to their small size, enhanced tissue penetration, rapid clearance from systemic circulation and drug delivery characteristics[8-10].

The proprietary innovative structure results in a small molecule (26 kDa) with potent inhibition of, and high affinity to, all VEGF-A isoforms[9]. Beovu is engineered to deliver a high concentration of drug, thus providing more active binding agents[6-8]. In preclinical studies, Beovu inhibited activation of VEGF receptors through prevention of the ligand-receptor interaction[9-11]. Increased signaling through the VEGF pathway is associated with pathologic ocular angiogenesis and retinal edema[12]. Inhibition of the VEGF pathway has been shown to inhibit the growth of neovascular lesions and suppress endothelial cell proliferation and vascular permeability[12].

Beovu is approved in more than 40 countries, including in the US[2], EU[1], UK[1], Japan[3], Canada[4] and Australia[5], based on the results of the HAWK and HARRIER clinical trials.

About the HAWK and HARRIER studies
With more than 1,800 patients across nearly 400 centers worldwide, HAWK (NCT02307682) and HARRIER (NCT02434328) are the first global head-to-head trials in patients with wet AMD that prospectively demonstrated efficacy of Beovu at week 48 using an innovative q12w/q8w regimen, with a majority of patients on q12w immediately following the loading phase[6,7]. Both studies are 96-week prospective, randomized, double-masked multi-center studies and part of the Phase III clinical development of Beovu[6,7]. The studies were designed to compare the efficacy and safety of intravitreal injections of brolucizumab 6 mg (HAWK and HARRIER) and 3 mg (HAWK only) versus aflibercept 2 mg in patients with wet AMD[6,7]. The most common adverse events (>=5% of patients) with Beovu were vision blurred, cataract, conjunctival hemorrhage, vitreous floaters and eye pain[6,7].

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maintain proprietary intellectual property protection; the particular prescribing preferences of physicians and patients; general political, economic and business conditions, including the effects of and efforts to mitigate pandemic diseases such as COVID-19; safety, quality, data integrity or manufacturing issues; potential or actual data security and data privacy breaches, or disruptions of our information technology systems, 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 media update as of this date and does not undertake any obligation to update any forward-looking statements contained in this media update as a result of new information, future events or otherwise.

About Novartis
Novartis is reimagining medicine to improve and extend people's lives. As a leading global medicines company, we use innovative science and digital technologies to create transformative treatments in areas of great medical need. In our quest to find new medicines, we consistently rank among the world's top companies investing in research and development. Novartis products reach nearly 800 million people globally and we are finding innovative ways to expand access to our latest treatments. About 109,000 people of more than 140 nationalities work at Novartis around the world. Find out more at https://www.novartis.com.

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Novartis Media Relations
E-mail: media.relations@novartis.com

Peter Zuest
Novartis External Communications

Amy Wolf
Novartis Division Communications

+ 41 79 899 9812 (mobile)
peter.zuest@novartis.com

+ 41 61 696 58 94 (direct)
+ 41 79 576 07 23 (mobile)
amy.wolf@novartis.com

Eric Althoff
Novartis US External Communications
+1 646 438 4335
eric.althoff@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	Sloan Simpson	+1 862 778 5052
Thomas Hungerbuehler	+41 61 324 8425		
Isabella Zinck	+41 61 324 7188		