

## MEDIA UPDATE

# New Novartis analysis shows wet AMD patients achieved sustained fluid control faster with Beovu® versus aflibercept

- *A post-hoc analysis of the HAWK and HARRIER trials presented at ASRS showed ≥50% of patients achieved sustained retinal dryness by weeks 8 and 4 with Beovu and by weeks 12 and 8 with aflibercept, respectively<sup>1</sup>*
- *The analysis also showed ≥75% of patients reached sustained dryness by weeks 32 and 20 with Beovu and by weeks 56 and 52 with aflibercept in HAWK and HARRIER, respectively<sup>1</sup>*
- *Retinal fluid is a key sign of wet AMD disease activity and drying the retina is a core aim of treatment<sup>2</sup>*

**Basel, July 27, 2020** — Novartis announced today results of a new post-hoc analysis of Beovu® (brolucizumab) Phase III HAWK and HARRIER pivotal trials demonstrating faster sustainable fluid control when compared with aflibercept in patients with wet age-related macular degeneration (wet AMD)<sup>1</sup>. Sustained dryness was defined as the beginning of three or more consecutive fluid-free (absence of both IRF and SRF) visits, as measured over 96 weeks<sup>1</sup>. The analysis was presented at the virtual 2020 American Society of Retinal Specialists (ASRS) annual meeting.

In both trials, ≥50% of patients achieved sustained dryness faster with Beovu (by weeks 8 and 4 in HAWK and HARRIER, respectively, and by weeks 12 and 8 with aflibercept)<sup>1</sup>. Additionally, more than ≥75% of patients reached sustained dryness faster with Beovu than those treated with aflibercept (by weeks 32 and 20 with Beovu 3 mg and 6 mg in HAWK and HARRIER, respectively, and by weeks 56 and 52 with aflibercept 2 mg)<sup>1</sup>. Results also showed that following a three-month loading phase, patients treated with Beovu required fewer injections to reach sustained retinal dryness, compared with aflibercept (an average of 3.3 and 2.6 injections with Beovu 3 mg and 6 mg in HAWK and HARRIER, respectively, and an average of 5.4 and 4.4 with aflibercept 2 mg)<sup>1</sup>.

“In wet AMD, drying retinal fluid effectively is a key goal of treatment, with the amount of fluid in the retina determining how often injections are needed. Frequent injections can place substantial burden on patients, leading to treatment drop-off,” said Dirk Sauer, Development Unit Head, Novartis Ophthalmology. “This analysis gives us further confidence in Beovu as a highly efficacious option for rapid and sustained fluid control.”

### **About Beovu (brolucizumab)**

Beovu (brolucizumab, also known as RTH258) is the most clinically advanced humanized single-chain antibody fragment (scFv)<sup>3-5</sup>. 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<sup>5-7</sup>.

The proprietary innovative structure results in a small molecule (26 kDa) with potent inhibition of, and high affinity to, all VEGF-A isoforms<sup>6</sup>. Beovu is engineered to deliver a high concentration of drug, thus providing more active binding agents<sup>3-5</sup>. In preclinical studies, Beovu inhibited activation of VEGF receptors through prevention of the ligand-receptor interaction<sup>6-8</sup>. Increased signaling through the VEGF pathway is associated with pathologic ocular angiogenesis and retinal edema<sup>9</sup>. Inhibition of the VEGF pathway has been shown to inhibit the growth of neovascular lesions and suppress endothelial cell proliferation and vascular permeability<sup>9</sup>.

Beovu is approved in more than 30 countries, including in the US, EU, UK, Japan, Canada and Australia, 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<sup>3,4</sup>. Both studies are 96-week prospective, randomized, double-masked multi-center studies and part of the Phase III clinical development of Beovu<sup>3,4</sup>. 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<sup>3,4</sup>. The most common adverse events ( $\geq 5\%$  of patients) with Beovu were vision blurred, cataract, conjunctival hemorrhage, vitreous floaters and eye pain<sup>3,4</sup>.

### **Beovu label updates**

In early 2020, following post-marketing reports of vasculitis, Novartis initiated a review of post-marketing safety case reports and together with an external review committee confirmed a safety signal of rare adverse events termed as “retinal vasculitis” and/or “retinal vascular occlusion” that may result in severe vision loss. As a result, Novartis initiated worldwide label updates to reflect this adverse event information.

Novartis is dedicated to examining the root causes and potential risk factors associated with these adverse events and has convened a fully dedicated team of Novartis research, drug development and medical specialists, who are working with an external team of top global experts to thoroughly investigate risk factors and identify mitigation strategies and treatment protocols.

Novartis encourages physicians to continue to report any adverse or suspicious events in accordance with local requirements at <https://www.report.novartis.com>. Novartis remains committed to transparency and will continue to provide updates on <https://www.brolucizumab.info> as information becomes available.

### **About wet age-related macular degeneration**

Wet AMD is the leading cause of severe vision loss and legal blindness in people over the age of 65 in North America, Europe, Australia and Asia, impacting an estimated 20 million people worldwide<sup>10-12</sup>. Wet AMD occurs when abnormal blood vessels form underneath the macula, the area of the retina responsible for sharp, central vision<sup>13-15</sup>. These blood vessels are fragile and leak fluid, disrupting the normal retinal architecture and ultimately causing damage to the macula<sup>13-15</sup>.

Early symptoms of wet AMD include distorted vision (or metamorphopsia) and difficulties seeing objects clearly<sup>16</sup>. Prompt diagnosis and intervention are essential<sup>15</sup>. As the disease progresses, cell damage increases, further reducing vision quality<sup>13</sup>. This progression can lead to a complete loss of central vision, leaving the patient unable to read, drive or recognize familiar faces and potentially depriving them of their independence<sup>13,17</sup>. Without treatment, vision can rapidly deteriorate<sup>18</sup>.

### **About Novartis in ophthalmology**

At Novartis, our mission is to discover new ways to improve and extend people's lives. In ophthalmology, we develop and deliver life-changing medicines and therapies for diseases and conditions from front to back of the eye, enabled by data and transformative technologies. Our ophthalmic solutions reach more than 150M people per year, from premature infants to the elderly.

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### **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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