



イノベーションで、世界をごきげんに、健康にする
Through innovation in health and medical fields,
we will make the world happier and healthier.

To Whom It May Concern

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The “Kubota Glasses” Developed by Kubota Pharmaceutical Holdings Co., Ltd.

On May 18, Kubota Pharmaceutical Holdings Co., Ltd. and its wholly-owned subsidiary, Kubota Vision Inc. (headquartered in the USA), jointly announced the development of Kubota Glasses on their respective corporate websites. (Further information is available through the link below.)

https://www.kubotaholdings.co.jp/ir/docs/20200518_JP_eSpec%20final.pdf

The joint announcement stated that:

- (1) Kubota Vision Inc. (headquarters: Seattle, Washington) verified effective usage of a tabletop active stimulation device in shortening axial length (the length between the cornea and retina) compared to the control eye in humans;
- (2) Given the anticipated demand for myopia solutions, the development of Kubota Glasses (wearable device for myopia prevention) would be accelerated in the interest of expediting a world without eyeglasses.



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Following the above announcement, Tsubota Laboratory received multiple inquiries concerning the differences between the Kubota Glasses and our eyeglass-style medical device for suppressing myopia progression. These inquiries offer the opportunity for us to clarify distinctions between these two devices.

Firstly, the Kubota announcement does not reveal the technology upon which the Kubota Glasses are based; it remains unknown. However, if we take the corporate announcement at face value ("effective usage of a tabletop active stimulation device in shortening axial length (the length between the cornea and retina) compared to the control eye in humans"), we can confirm that the Tsubota Laboratory medical device is derived from a different technology.

The technology employed by Tsubota Laboratory is based on research results gained at the Keio University School of Medicine's Department of Ophthalmology and grounded in the mechanism of suppressing the progression of myopia. The results have been published by Hidemasa Torii et al., which clarified that the violet light contained in sunlight works through the EGR-1 gene to suppress myopia progression⁽¹⁾. In 2017, based on this global cutting-edge research, Tsubota Laboratory (a Keio University School of Medicine startup) began utilizing this specific light to develop the world's first medical device for suppressing myopia progression.

Our patent for a myopia prevention device using the specific light wavelength for suppressing myopia progression is registered in both Japan and the USA. Moreover, our R&D, which includes clinical trials, is the only one of its kind worldwide, with a clinical trial in progress toward an official approval as the globally-groundbreaking medical device for suppressing myopia progression.

We trust that the above explanation will clarify that the Kubota Glasses



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developed by Kubota Pharmaceutical Holdings Co., Ltd. (and/or their subsidiary, Kubota Vision Inc.) are completely different from the eyeglass-style medical device for suppressing myopia progression which is under development by Tsubota Laboratory. We further trust that the two will no longer be confused.

Tsubota Laboratory intends to effectively use intellectual property rights, and will complete the clinical trial currently underway, accelerating the development of the world's first science-based irradiation-model medical device for suppressing myopia progression. Toward this end, all of us at Tsubota Laboratory would be honored to receive your ongoing guidance, encouragement, support, and assistance as we move forward together.

(1) Torii H et al. EBioMedicine 2017 (15) 210-219, Violet Light Exposure Can Be a Preventive Strategy Against Myopia Progression

Myopia research publications from Tsubota Laboratory, Inc. (as of May 28, 2020)

- 1) Torii H, ..., Tsubota K. Violet Light Exposure Can Be a Preventive Strategy Against Myopia Progression. eBioMedicine, 2017.
- 2) Torii H, ..., Tsubota K. Violet Light Transmission is Related to Myopia Progression in Adult High Myopia. Scientific Reports, 2017.
- 3) Jiang X, ..., Tsubota K. A highly efficient murine model of experimental myopia. Scientific Reports, 2018.
- 4) Asbell PA and Tsubota K. Myopia control: current thoughts and future research. Eye & Contact Lens, 2018.
- 5) Jiang X, ..., Tsubota K. Progress and control of myopia by light environments. Eye & Contact Lens, 2018.
- 6) Jiang X, ..., Tsubota K. Inducement and evaluation of a murine model of experimental myopia. Journal of Visualized Experiments, 2019. <https://www.jove.com/video/58822/inducement-and-evaluation-of-a-murine-model-of-experimental-myopia> (Video)
- 7) Mori K, ..., Tsubota K. Oral crocetin administration suppressed refractive shift and axial elongation in a murine model of lens-induced myopia. Scientific Reports, 2019.
- 8) Tanaka Y, Kurihara T, Hagiwara Y, Ikeda SI, Mori K, Jiang X, Torii H, Tsubota K. Ocular-Component-Specific miRNA Expression in a Murine Model of Lens-Induced Myopia. Int J Mol Sci. 2019 Jul 24;20(15):3629.
- 9) Yotsukura E, ..., Tsubota K. Current Prevalence of Myopia and Association of Myopia with Environmental



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Factors Among Schoolchildren in Japan. *JAMA Ophthalmology*, 2019.

10) Mimura R, Mori K, Torii H, Nagai N, Suzuki M, Minami S, Ozawa Y, Kurihara T, Tsubota K. Ultra-Widefield Retinal Imaging for Analyzing the Association Between Types of Pathological Myopia and Posterior Staphyloma. *J Clin Med*. 2019 Sep 20;8(10):1505.

11) Mori K, ..., Tsubota K. The Effect of Dietary Supplementation of Crocetin for Myopia Control in Children: A Randomized Clinical Trial. *Journal of Clinical Medicine*, 2019.

12) Mori K, Kurihara T, Uchino M, Torii H, Kawashima M, Sasaki M, Ozawa Y, Yamagishi K, Iso H, Sawada N, Tsugane S, Yuki K, Tsubota K. High Myopia and Its Associated Factors in JPHC-NEXT Eye Study: A Cross Sectional Observational Study. *J Clin Med*. 2019 Oct 25;8(11):1788.

13) Mori K, Kurihara T, Jiang X, Ikeda SI, Ishida A, Torii H, Tsubota K. Effects of Hyperoxia on the Refraction in Murine Neonatal and Adult Models. *Int J Mol Sci*. 2019 Nov 29;20(23):6014.

14) Mori K, Kurihara T, Jiang X, Ikeda SI, Yotsukura E, Torii H, Tsubota K. Estimation of the Minimum Effective Dose of Dietary Supplement Crocetin for Prevention of Myopia Progression in Mice. *Nutrients*. 2020 Jan 9;12(1). pii: E180.

15) Grzybowski A, Kanclerz P, Tsubota K, Lanca C, Saw SM. A review on the epidemiology of myopia in school children worldwide. *BMC Ophthalmol*. 2020 Jan 14;20(1):27. doi: 10.1186/s12886-019-1220-0. Review.