

# 標準ビルベリーエキス含有食品摂取による 眼疲労抑制効果 —ランダム化二重盲検プラセボ対照クロスオーバー試験—

## Effect of Standardized Bilberry Extract on Eye Strain

—A Double-Blind Randomized Placebo Controlled Crossover Study—

小齊平麻里衣<sup>1)</sup> 影山 将克<sup>2)</sup>  
蒲原 聖可<sup>3)</sup> 北市 伸義<sup>4)</sup>

### ABSTRACT

**Objective** We wanted to verify clinically the relationship between absorption of anthocyanins (those plasma concentrations) and eye fatigue by using Standardized Bilberry Extract (SBE).

**Methods** We performed a placebo-controlled, double-blind, randomized, and crossover clinical trial. Subjects were healthy males and females from 20 to 44 years old. Either 180 mg of SBE or placebo per day was administered orally for 7 days. The wash-out period for the crossover trial was 13 days. At the end of the 7-day trial, subjects wore an eye mask for 10 minutes before playing a video game (tetris) on a smartphone for 30 minutes to induce VDT stress. It was evaluated HFC-1 values as an objective index, and questionnaire as a subjective index. The day after the consecutive 7-day trial, the subjects plasma concentration of anthocyanins was measured 1 hr after a administration of SBE or placebo.

**Result** HFC-1 values of the subjects administered SBE showed significant improvement ( $P=0.012$ ) compared with those administered placebo. Moreover, plasma concentration of anthocyanins were correlated with HFC-1 values ( $r=-0.369$ ), and subjective index by questionnaire ( $r=-0.530$ ).

**Conclusion** Administration of SBE for 7 days increase plasma concentration of anthocyanins, and improved the eye fatigue induced by VDT stress and/or nearsighted work.

(Jpn Pharmacol Ther 2015 ; 43 : 1741-9)

**KEY WORDS** Bilberry extract, Eye strain, Plasma concentration, Anthocyanin

<sup>1)</sup>株式会社オムニカ <sup>2)</sup>株式会社ディーエイチシー 第二研究所 <sup>3)</sup>株式会社ディーエイチシー, 健康科学大学 <sup>4)</sup>北海道医療大学病院 眼科

Marie Kosehira: Omnica Co., Ltd.; Masakatsu Kageyama: DHC Corporation Laboratories, Division 2; Seika Kamohara: DHC Corporation, Health Science University; Nobuyoshi Kitaichi: Department of Ophthalmology, Health Sciences University of Hokkaido