

Topical Peroxisome Proliferator-Activated Receptor Agonist Induces Molecular Alterations Enhancing Barrier Function and Water-Holding Capacity of the Human Stratum Corneum In Vivo

Maxim E. Darvin ^{1*}, Andrew Salazar ², Johannes Schleusener ¹, Jürgen Lademann ¹ and Jörg von Hagen ^{2,3*}

¹ Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and Humboldt-Universität zu Berlin, Department of Dermatology, Venerology and Allergology, Center of Experimental and Applied Cutaneous Physiology, Charitéplatz 1, 10117 Berlin, Germany;

² Merck KGaA, Frankfurter Straße 250, 64293 Darmstadt, Germany;

³ ryon - GreenTech Accelerator Gernsheim GmbH, Mainzer Str.41, 64579 Gernsheim, Germany

* Correspondence: joerg.von.hagen@merckgroup.com; maxim.darvin@protonmail.com

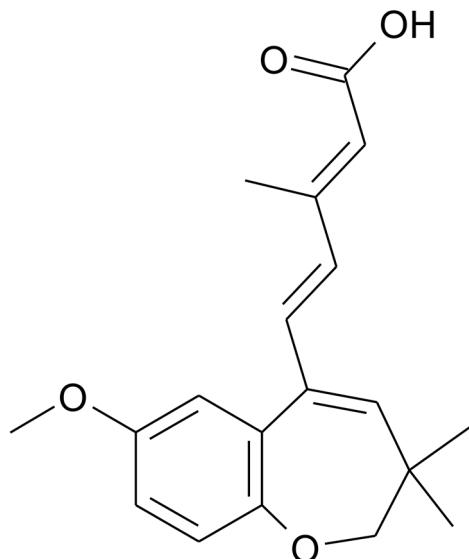


Figure S1. Chemical structure of oxeglitazar.

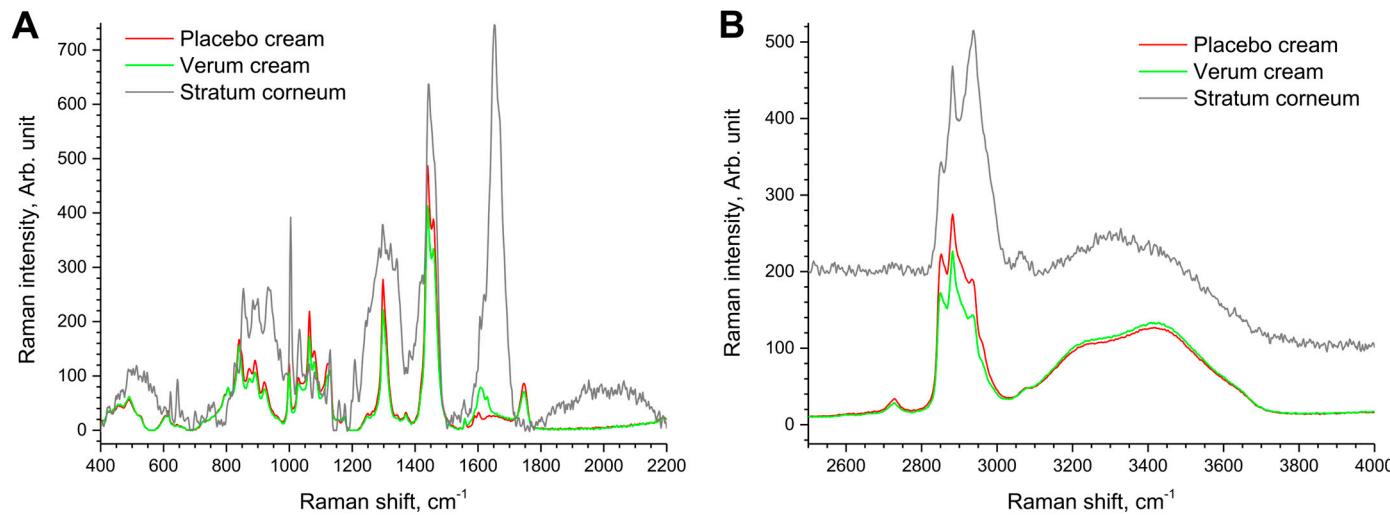


Figure S2. Baseline removed Raman spectra of untreated skin (SC, depth $\approx 7 \mu\text{m}$) (black), placebo cream (red) and verum cream (green) in the FP (A) and HWN (B) ranges.

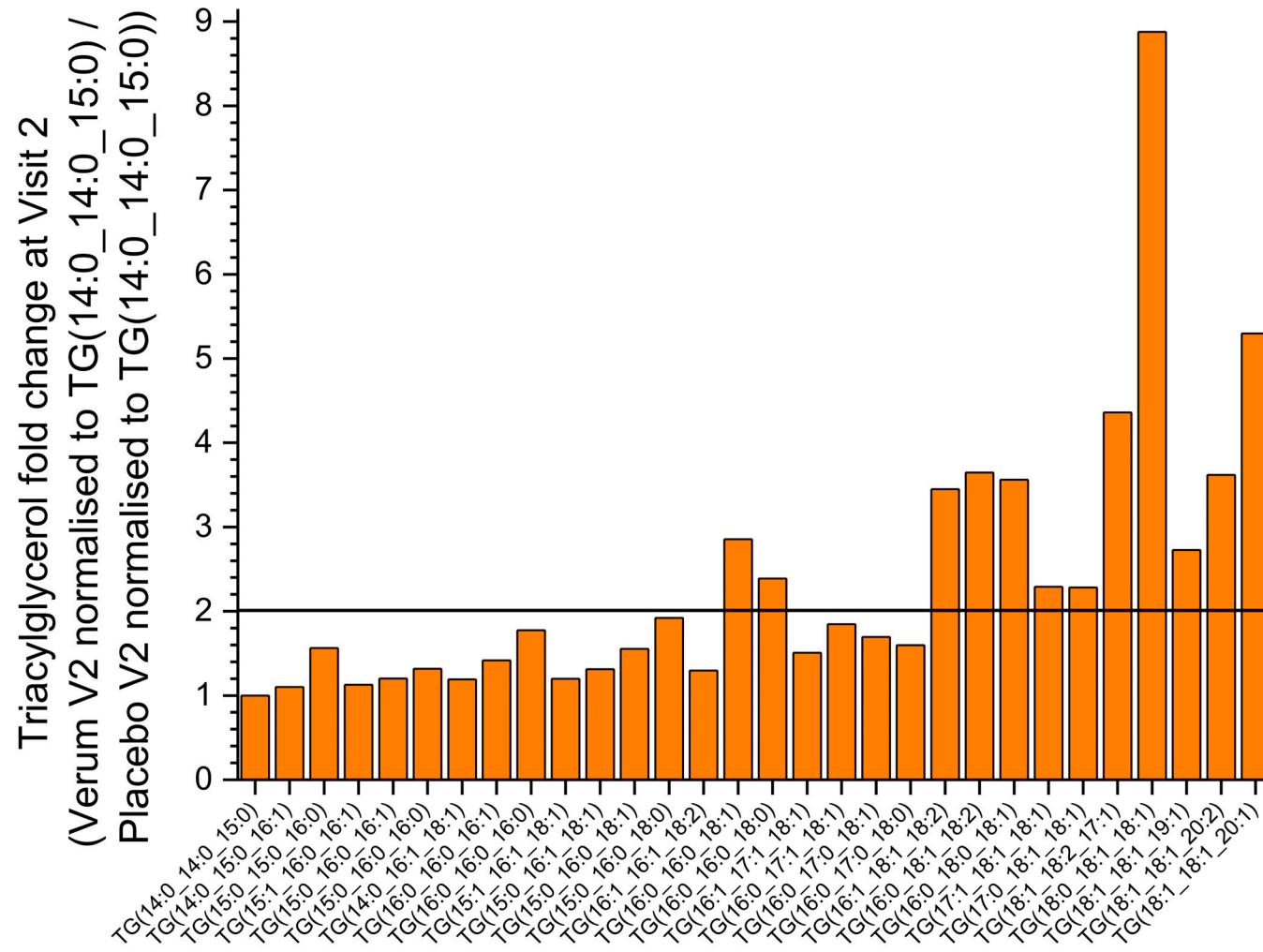


Figure S3. Triacylglycerol fold change during visit 2 (verum V2 normalised / placebo V2 normalised ratio) normalised to the concentration of short-length chain TG(14:0_14:0_15:0). The horizontal line indicates a 2-fold change between the verum and placebo groups.

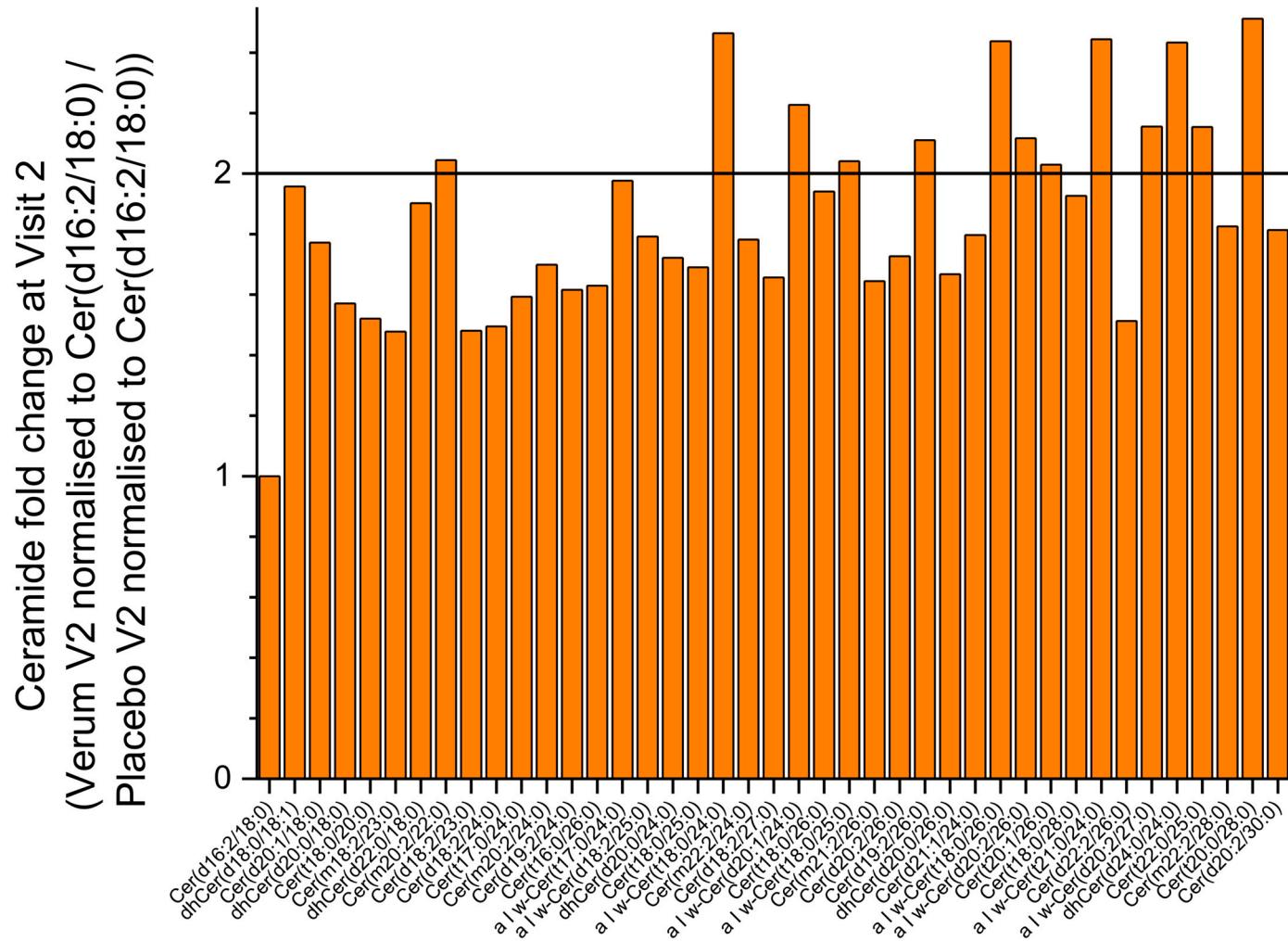


Figure S4. Ceramide fold change during visit 2 (verum V2 normalised / placebo V2 normalised ratio) normalised to the concentration of short-length chain Cer(d16:2/18:0). The horizontal line indicates a 2-fold change between the verum and placebo groups.