Supplementary Information

Production of Ethyl-agarobioside, a Novel Skin Moisturizer, by Mimicking the Alcoholysis from the Japanese Sake-Brewing Process

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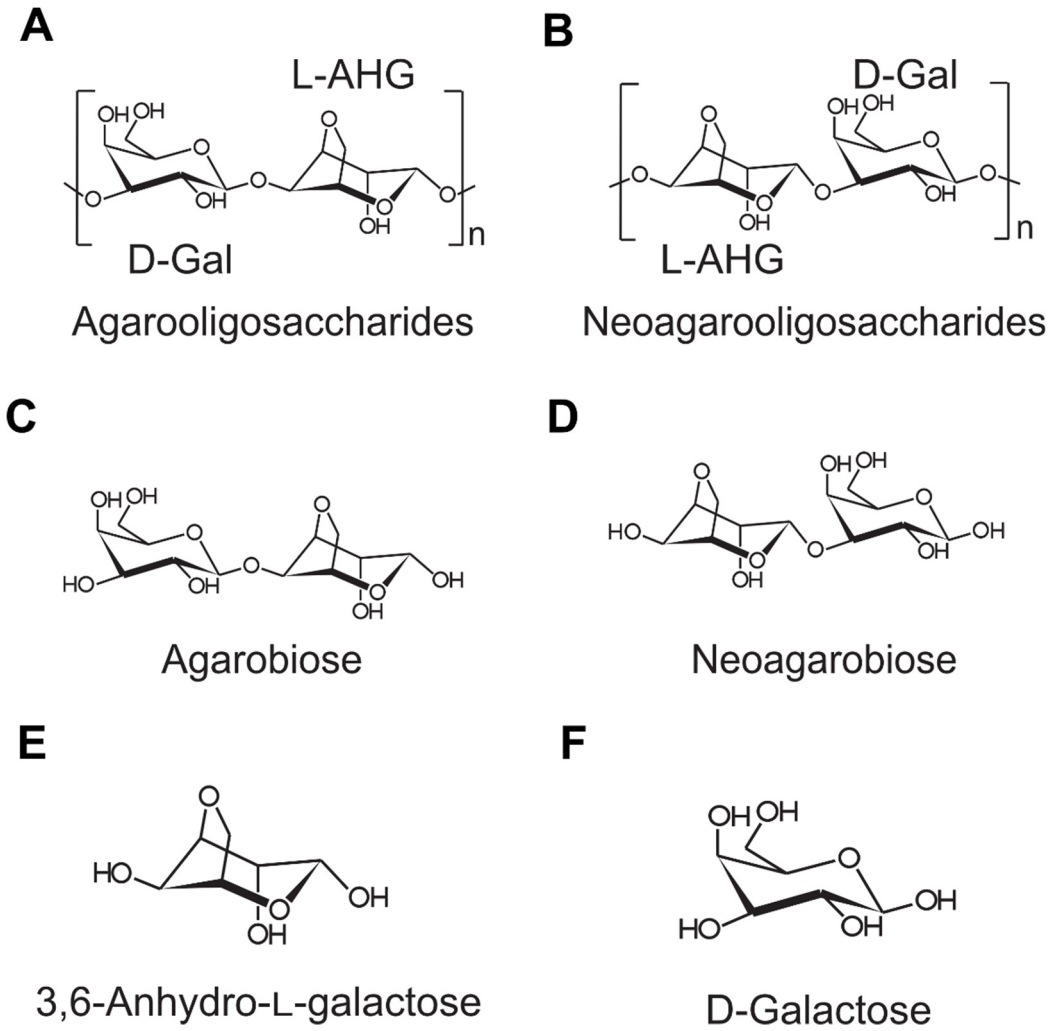

Figure S1. Chemical Structures of **(A)** agarooligosaccharides, **(B)** neoagarooligosaccharides, **(C)** agarobiose, **(D)** neoagarobiose, **(E)** 3,6-anhydro-L-galactose, and **(F)** D-galactose.

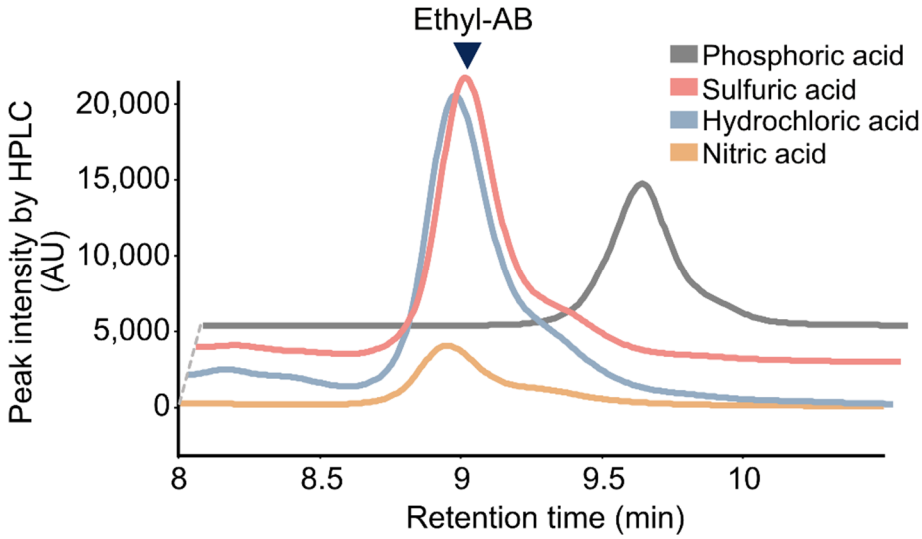

Figure S2. HPLC analysis of the reaction products of agarose alcoholysis using various acid catalysts to produce ethyl-AB. Acid-catalyzed alcoholysis was performed on 2% (w/w) agarose at 70°C for 18 h using 25 mM phosphoric acid, sulfuric acid, hydrochloric acid, or nitric acid as acid catalysts.

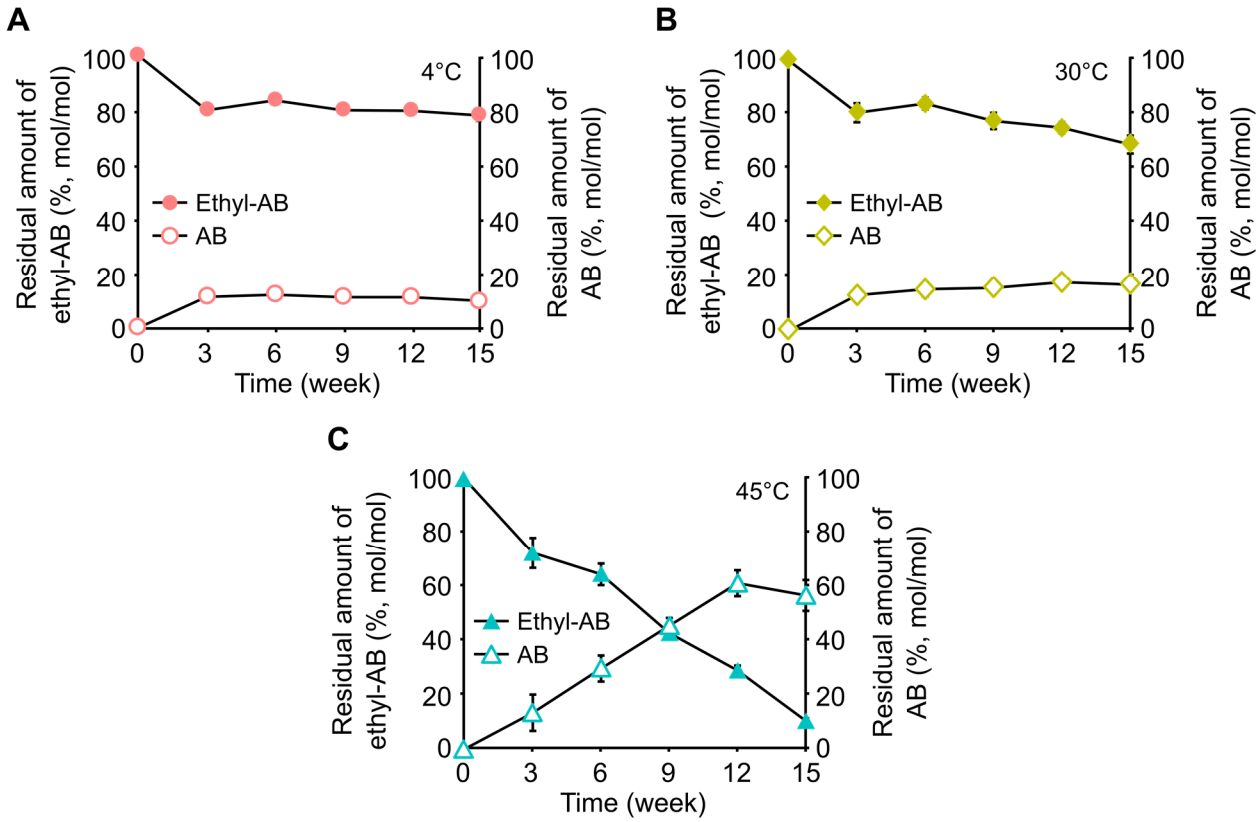

Figure S3. Thermal stability of ethyl-AB and AB as measured by their residual amounts for 15 weeks at three different temperatures. Ethyl-AB was found to be converted to AB when incubated at (**A**) 4°C, (**B**) 30°C, and (**C**) 45°C. Residual amounts of ethyl-AB and AB were measured using HPLC. All data represent the means and standard deviation of three independent replicates.