

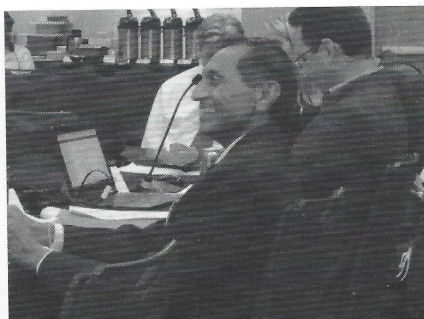
ERP Adopts First Action Method for Ethanol in Kombucha

On September 24, 2017, the AOAC Expert Review Panel (ERP) for Stakeholder Panel on Strategic Food Analytical Methods (SPSFAM) Ethanol in Kombucha Methods, chaired by **Sneh Bhandari**, Mérieux NutriSciences, approved a First Action *Official Method*SM for ethanol in kombucha by an enzymatic test. The ERP agreed that the method acceptably meets *Standard Method Performance Requirements* (SMPRs[®]) developed and approved through voluntary stakeholder consensus.

During the Annual Meeting, the ERP provided in-depth reviews of five candidate methods for First Action consideration. Candidate methods were evaluated against AOAC SMPR 2016.001 for determination of ethanol in kombucha. All methods were reviewed by a primary and secondary expert reviewer. Panel members summarized their reviews, and advantages and disadvantages of each method were then discussed thoroughly by the entire panel, stakeholders, and observers present. Technical issues, as well as general comments, were addressed and reconciled.

A balance of experts is integral to AOAC ERPs. Panel members are thoroughly vetted by the AOAC Official Methods Board (OMB).

Submitted by R-Biopharm, a single-laboratory validation (SLV) of a method is described for determination of ethanol in kombucha, juices, and alcohol-free



Sneh Bhandari, Mérieux NutriSciences and chair of the AOAC ERP for SPSFAM Ethanol in Kombucha Methods



beer by ENZYTEC[™] Liquid Ethanol. The ENZYTEC Liquid Ethanol quantifies ethanol in diluted or undiluted samples between 30 and 300 mg/L ethanol with a high precision ($CV \leq 2\%$). The enzymatic reaction requires one enzyme and one co-enzyme only. Ethanol is oxidized by the catalytic activity of alcohol dehydrogenase (ADH) in the presence of nicotinamide-adenine dinucleotide (NAD^+) to acetaldehyde and $NADH/H^+$. $NADH$ formed is stoichiometric with amount of ethanol originally present. $NADH$ produced is measured at 340 nm

with a spectrophotometer.

In general, the ERP agreed that the method provides a robust and precise quantification of ethanol. In addition, the method is simple, fast, easy to follow and allows high throughput. The method acceptably meets the SMPR, with valuable method performance information provided. The method was adopted by the ERP as First Action *Official Method*SM 2017.07.

"Determination of Ethanol in Kombucha, Juices, and Alcohol-Free Beer by ENZYTEC[™] Liquid Ethanol" will be published in the *Journal of AOAC INTERNATIONAL* and *Official Methods of Analysis*. The ERP will monitor the use and performance of the method for the next 2 years for Final Action recommendation.

Standards development activities for the kombucha project are supported by AOAC Organizational Affiliates (OAs), as part of the AOAC working group initiative: **Buchi Kombucha, GT's Kombucha, Health-Ade Kombucha, High Country, Humm Kombucha, Kombucha Brewers International, and KeVita.**

For more information on SPSFAM, visit the AOAC website at www.aoc.org > Standards Development > Stakeholder Panel on Strategic Food Analytical Methods or contact **Dawn Frazier**, executive for scientific business development, at dfrazier@aoac.org or Tel: +1-301-924-7077, ext 117. ■

