Determination of carbohydrates in honey

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ABSTRACT

Preparation of honey samples and HPAE-PAD method for the determination of carbohydrates in honey, multiple, evaluate its quality in a quick and easy to determine the possibility of adulteration.

RESULTS

Separation

Honey samples were separated using a Dionex CarboPac PA210 column with 100 mM KOH (Wash step) followed by 100 mM KOH for 30 min, 20% SS1 (20% sucrose syrup) for 30 min and then a hexose standard mixture for 10 min. The carbohydrates were eluted in the mobile phase containing 100 mM KOH and 20% SS1 for 30 min. The carbohydrates from each sample were quantified using PAD method for honey sugar analysis that requires only a hydroxide mobile phase.

SAMPLE ANALYSIS

Honey sugar analysis

The peak height for 12 commercial honey samples (Table 1) and analyzed using Dionex CarboPac PA210 column with 100 mM KOH, followed by a 100 mM KOH and 20% SS1 for 30 min and then a hexose standard mixture for 10 min. The carbohydrates were eluted in the mobile phase containing 100 mM KOH and 20% SS1 for 30 min. The carbohydrates from each sample were quantified using PAD method for honey sugar analysis that requires only a hydroxide mobile phase.

METHOD ACCURACY

Sample Recovery

The method was validated by increasing monosaccharides, oligosaccharides, disaccharides, and trisaccharides standard solutions containing fructose, glucose, sucrose, maltose, and fructose in the range of 500-1,000 mg/L. The method has been determined by the potential impact on the determination of glucose, fructose, and fructose was measured using a Pad method for honey sugar analysis that requires only a hydroxide mobile phase.

Table 1. Sample recovery results for honey samples HM1, HM2, HM3, and HM4.

Table 2. Method accuracy.

Table 3. Precautions.

REFERENCES


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