



GB 31614.1-2023

National Food Safety Standard **Determination of Sialic Acid in Food**

食品安全国家标准 食品中唾液酸的鉴定

National Health Commission of the People's
Republic of China
State Administration for Market Regulation of the
People's Republic of China

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National Standard of the People's Republic of China

GB 31614.1-2023
In Replacement of GB/T 30636-2014

National Food Safety Standard

Determination of Sialic Acid in Food

食品安全国家标准

食品中唾液酸的鉴定

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National Health Commission of the People's Republic of China
State Administration for Market Regulation

Foreword

This standard replaces GB/T 30636-2014 "Determination of Sialic Acid in Bird's Nests and Their Products Liquid Chromatography".

Compared with GB/T 30636-2014, the main changes of this standard are as follows:

——The standard name was modified;

——The scope of application of the method was modified to include liquid milk, milk powder, cakes and beverages;

——It clarified that the target substance to be measured in bird's nest and its products is bound sialic acid;

——It added liquid chromatography-fluorescence detection and liquid chromatography-mass spectrometry/mass spectrometry.

National Food Safety Standard

Determination of Sialic Acid in Food

1. Scope

This standard specifies the determination method of sialic acid in foods.

The first method of this standard, liquid chromatography-ultraviolet detection method, is applicable to the determination of bound sialic acid in bird's nests and their products. The second method, liquid chromatography-fluorescence detection method, and the third method, liquid chromatography-mass spectrometry/mass spectrometry method, are applicable to the determination of sialic acid in liquid milk, milk powder, cakes and beverages.

Method 1: Liquid chromatography-ultraviolet detection

2. Principle

The sample is heated and hydrolyzed in a hydrochloric acid solution to release bound sialic acid. The sample solution is separated using a strong anion exchange chromatography column, detected using an ultraviolet detector or a diode array detector, and quantified using an external standard method.

3. Reagents and Materials

Unless otherwise specified, all reagents used in this method are of analytical grade and the water is first-grade water as specified in GB/T6682.

3.1 Reagents and materials

3.1.1 Acetonitrile (CH_3CN): chromatographically pure.

3.1.2 Phosphoric acid (H_3PO_4): chromatographically pure.

3.1.3 Concentrated hydrochloric acid (HCl): 12 mol/L.

3.1.4 Dialysis bag: can pass compounds with relative molecular mass below 7000. Soak in water for 1 hour before use.

3.1.5 Microporous filter membrane: 0.45 μm , organic phase type.

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