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**NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC  
OF CHINA**

**中华人民共和国国家标准**

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**Determination of vitamin B<sub>12</sub> in health foods**

**保健食品中维生素 B<sub>12</sub> 的测定**

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**Standardization Administration of the People's Republic of China  
(SAC)**

## Contents

Foreword.....	1
<b>1 Scope</b> .....	<b>1</b>
<b>2 Principle</b> .....	<b>1</b>
<b>3 Reagents</b> .....	<b>1</b>
<b>4 Instruments and equipment</b> .....	<b>2</b>
<b>5 Analysis procedures</b> .....	<b>3</b>
<b>6 Result calculation</b> .....	<b>5</b>
<b>7 Precision</b> .....	<b>6</b>
<b>8 Chromatogram</b> .....	<b>6</b>

## **Foreword**

This Standard is proposed and under the jurisdiction of the Ministry of Health (MOH) of the People's Republic of China.

Chief draft units of this standard: Nutrition and Food Safety Institute, Center for Disease Control and Prevention

Chief drafters of this standard: Yang Dajin and Lu Jie.

# Determination of vitamin B<sub>12</sub> in health foods

## 1 Scope

This standard specifies the determination method for vitamin B<sub>12</sub> in health foods.

This standard applies to the determination for vitamin B<sub>12</sub> in tablets, capsules, powder, as well as functional beverage and other types of health foods.

When processing the sample in solid phase extraction method, the sampling amount should be 2.0 g and the detection limit should be 1.0μg/g. When processing the sample in immune affinity method, the sampling amount for tablets, capsules and powder should be 2.0g; the detection limit is 0.05μg/g; while the sampling amount of functional beverage is 20mL and the detection limit is 3.0μg/L.

## 2 Principle

Enrich the vitamin B<sub>12</sub> in the sample extracting solution in solid phase extraction method or immune affinity method and remove part of the impurity; analyze with high performance solution chromatography

## 3 Reagents

Unless otherwise stated, reagents used are analytically pure and experiment water is grade I, conductivity is 0.01 mS/m at 25°C. .

3.1 Acetonitrile (C<sub>2</sub>H<sub>3</sub>N): Chromatographically pure.

3.2 Methanol (CH<sub>4</sub>O): Guarantee reagent.

3.3 Ethanol (C<sub>2</sub>H<sub>6</sub>O).

3.4 Tetrabutylammonium chloride (C<sub>16</sub>H<sub>36</sub>NCl).

3.5 5% tetrabutylammonium chloride C<sub>16</sub>H<sub>36</sub>NCl solution: Weigh 5.0g tetrabutylammonium chloride; add water to dissolve and dilute it to 100mL.

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