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GB

NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB 1903.17-2016

National food safety standard - Food nutritional fortification substance - Lactoferrin

食品安全国家标准

食品营养强化剂 乳铁蛋白

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Appendix A

Test method

A.1 General provisions

Unless otherwise specified in this standard, the reagents used are all analytical pure; the standard titration solution, impurity determination standard solution, and preparation and products shall be prepared in accordance with GB/T 601, GB/T 602, and GB/T 603; AND the test water shall comply with the provisions of the level 3 water requirements of GB/T 6682. The solution used in the test refers to water solution when it is not indicated of solvent preparation.

A.2 Determination of mass percentage of lactoferrin in total protein

A.2.1 Method summary

USE the high efficiency liquid chromatography (HPLC) to, under the specified working conditions, determine the lactoferrin through the chromatographic column separation at 280 nm from the UV detector, with the area quantitatively determined by the normalization method.

A.2.2 Reagents and materials

A.2.2.1 Water: Level 1 water in line with GB/T 6682.

A.2.2.2 Acetonitrile: Chromatographically pure.

A.2.2.3 Sodium chloride solution: 0.9%.

A.2.2.4 1% trifluoroacetic acid solution: ABSORB 1mL of trifluoroacetic acid; ADD level 1 water to make the volume reach to 100 mL; MAKE it pass the 0.45 µm filter.

A.2.2.5 Lactoferrin reference substance: purity ≥ 95%.

A.2.2.6 0.45 µm microporous water phase filter.

A.2.3 Instruments and equipment

High performance liquid chromatograph: equipped with UV detector.

A.2.4 Reference chromatographic conditions

Where:

A_i - The peak area of the main peak;

A - The peak area of all dissolution peaks.

The test results are based on the arithmetic mean of the parallel measurement results, leaving 3 significant digits.

A.3 Solubility test

A3.1 Analysis steps

WEIGH 0.8 g of sample; ADD it into about 40 mL of water at 20 °C; fully STIR it for over 2 min; OBSERVE it after let it standing. The sample shall be totally dissolved, the solution shall be clear and transparent, AND there shall be no visible impurity.

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