

Standard

Method for Vitamin D Deficiency Screening

1 Scope

This standard specifies the indicators, reference values, and measurement methods for vitamin D deficiency and insufficiency screening in the people.

This standard is applicable to the determination of vitamin D nutritional status in the people.

2 Normative references

The following documents are essential for the application of this document. For the references dated, only their dated versions are applies to this document; for the references undated, their latest versions, including all amendments, are applicable to this document.

GB/T 603 Chemical reagent Preparation of formulations and products used in test methods

GB/T 6682 Analysis of laboratory water specifications and test methods

WS/T 225 Collection and processing of blood samples for clinical chemical testing

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 25-hydroxyvitamin D; 25(OH)D

The main circulating form of vitamin D in the blood, with good stability, is recognized as a reliable indicator for evaluating the nutritional status of vitamin D in the human body. It mainly includes two forms: 25 (OH) D₂ and 25 (OH) D₃, of which 25 (OH) D₃ is the main form of vitamin D present in the blood.

3.2 Vitamin D deficiency

Vitamin D deficiency can be determined when the content of 25-hydroxyvitamin D in human serum (or plasma) is lower than the reference values for deficiency.

3.2 Vitamin D insufficiency

Vitamin D insufficiency can be determined when the content of 25-hydroxyvitamin D in human serum (or plasma) is lower than the reference values for the normal people, but higher than that for deficiency.

4 Determination indicators and reference values for vitamin D nutritional status in the people

Determination indicators and reference values for vitamin D nutritional status in the people are shown in [Table 1](#).

Table 1. Determination indicators and reference values for vitamin D nutritional status in the people

Determination indicator	Normal		Insufficiency		Deficiency	
	ng/mL	nmol/L	ng/mL	nmol/L	ng/mL	nmol/L
Content of 25-hydroxyvitamin D in serum (or plasma)	≥ 20	≥ 50	≥ 12 to < 20	≥ 30 to < 50	< 12	< 30

5 Measurement methods

5.1 Collection and preservation of blood specimens

Follow the methods specified in Appendix A.

5.2 First: Liquid chromatography tandem mass spectrometry

Follow the methods specified in Appendix B.

5.3 Second: Chemiluminescence immunoassay

Follow the methods specified in Appendix C.

5.4 Third: Enzyme linked immunosorbent assays

Follow the methods specified in Appendix D.