

YC

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

YC/T 628-2025

**Technical Procedures for Tobacco Variety Identification - SNP
Marker Method
(English Translation)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the State Tobacco Monopoly Administration.

This document is under the jurisdiction of the Agricultural Subcommittee of the National Tobacco Standardization Technical Committee (SAC/TC 144/SC 2).

1 Scope

This document describes the use of single nucleotide polymorphism (SNP) markers in common tobacco.

(*Nicotiana tabacum* L.) Variety identification procedures, data recording and statistics, and judgment methods.

This document applies to the collection of SNP fingerprint data and variety identification of tobacco varieties.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this

document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 21138 Tobacco Seeds NY/T 2594 General principles of DNA molecular marker method for plant variety identification YC/T 369 Guidelines for Testing the Distinctiveness, Uniformity and Stability of New Plant Varieties - Flue-cured Tobacco

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Principles

The genomic DNA of different tobacco varieties exhibits differences in nucleotide sequences, with these differences caused by single nucleotide variations being polymorphic.

These are called SNPs. SNP markers are characterized by high distribution density, high detection throughput, and easy data integration. Different varieties have different SNP locus genes.

Different varieties can be distinguished through detection techniques such as amplification and chip scanning.

5 Main Reagents

5.1

DNA extraction kit.

5.2

SNP chip kit.

6 Main Instruments and Equipment

6.1

Sample pulverizer or grinder.

6.2

Incubator or water bath.

6.3

Vortex Oscillator.

6.4

Micropipette.

6.5

PCR amplification instrument.

6.6

Centrifuge.

6.7

Electrophoresis apparatus.