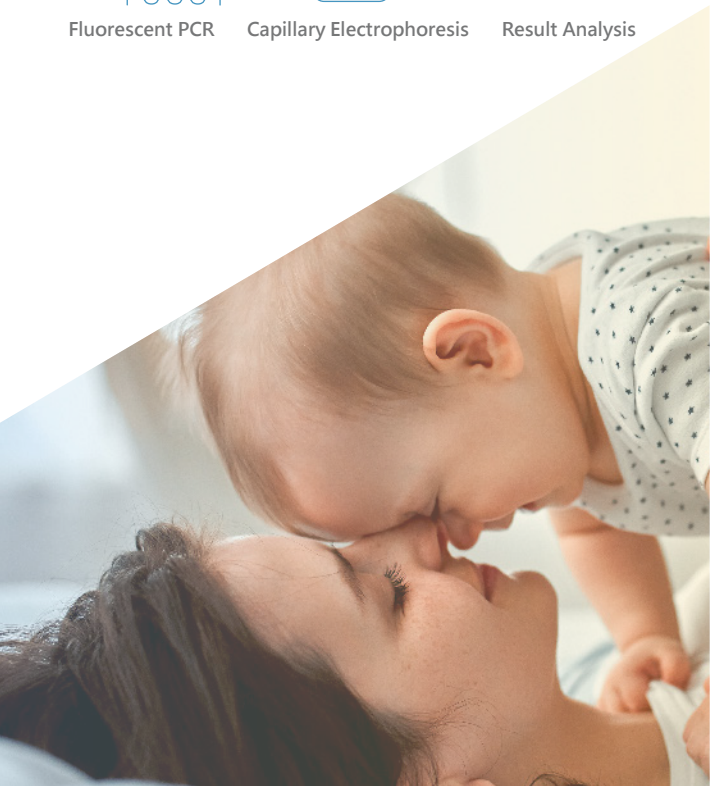
Methods Comparison

Methodology	qPCR	MLPA (Gold standard)	Origin
Target	SMN1 Exon7	SMN1+SMN2 Exon7+8	
Copy Number	0, 1, ≥2	0, 1, 2, 3, ≧4	
Requirement	Low	High	Low
Convenience	High	Low	High
Duration	2 Hours	2 Days	2.5 Hours
Advantages	-	Multiplex PCR, dual exon verification, single-tube integration of SMN1 & SMN2	

Experimental Procedure

Fluorescent PCR → Capillary Electrophoresis → Result Analysis



Product Advantages

Comprehensive Testing
Single-Tube Integration of SMN1/2 Exons 7/8

High Accuracy
Dual Internal Control Monitoring, Accurate Differentiation to ≥4 Copies

Easy Operation
Single Amplification, Direct to CE

Dual Exon Verification
Avoid False Positives and Negatives, Indicate SMN Gene Conversion

SMA Phenotype Prediction
Provide Basis for Subsequent Clinical Diagnosis, Prognosis, and Management

Superior to the Gold Standard
Performance equal to the Gold Standard, Significantly Optimizes Process and Time

Automated Interpretation
Automated Analysis Software, Reduces Human Error

Origin Biotechnology Co., Ltd
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PCR-CE SMN1/2 Kit

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Answers for better life

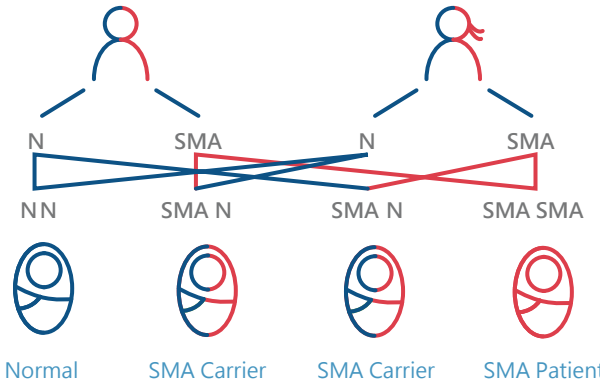
Spinal Muscular Atrophy (SMA)

Spinal muscular atrophy (SMA) is a common neuromuscular disorder in children and is the leading genetic cause of infant mortality.

It manifests as progressive muscular atrophy, affecting motor muscles and advancing to skeletal, respiratory, and digestive system abnormalities, often leading to respiratory failure and death.

SMA is caused by mutations in the SMN1 gene and influenced by the SMN2 gene. SMN1 determines the onset of the disease, while SMN2 affects the severity. Genetic testing of SMN1 and SMN2 is crucial for disease prevention, genetic counseling, and clinical treatment.

High Carrier Frequency



(1 in 4 patient and 1 in 2 carriers)

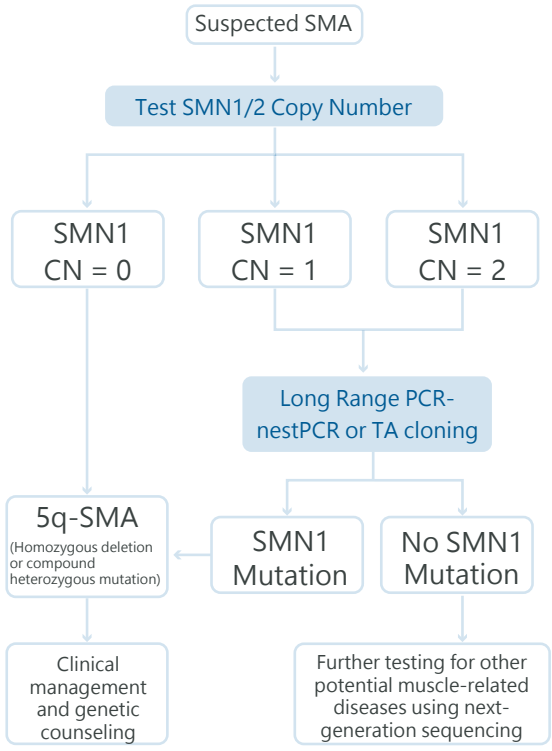
The carrier frequency among the Asian population is 1 in 48, making it a high carrier rate monogenic disease. In families with carriers, there is a 1/4 chance of having a child with SMA and a 1/2 chance of having a child who is a carrier.

Expert Consensus on SMA Diagnosis

Complete SMA solution provided by Origin :

SMN1/2 Exon 7/8 Copy Number
+
Long Fragment PCR Testing
→ 100%

Genetic diagnosis report includes:
SMN1 and SMN2 Exon 7 and 8 Copy Number



SMA Diagnosis Flowchart
(2020 Expert Consensus on Spinal Muscular Atrophy Genetic Testing)

The Three-tier Prevention of SMA

Reduce birth defects
Improve the quality of the population

Target Population

Pre-pregnancy counseling
Prevent the risk in the next generation

Prenatal screening
Effectively prevent the birth of children with SMA

Newborn screening
Early intervention, and improved prognosis

SMA high-risk family assessment
Risk assessment for recurrence

Suspected SMA patients
Precision diagnosis, phenotype prediction, providing a basis for diagnosis and management