

APOE Genetic Testing

with a sample-to-answer system



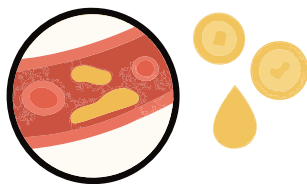
Genotyping Analyzer

INB-G8

Integrated PCR & Capillary
Electrophoresis (CE)



APOE Polymorphisms and Genotype Combinations



APOE

Apolipoprotein E (APOE) is a protein involved in blood lipid metabolism. A subtype is implicated in Alzheimer's disease and cardiovascular diseases. It is encoded in humans by the APOE gene.

Polymorphisms

ε2 (Cys112, Cys158)

ε3 (Cys112, Arg158)

ε4 (Arg112, Arg158)

Genotypes

ε2 / ε2

ε3 / ε3

ε2 / ε3

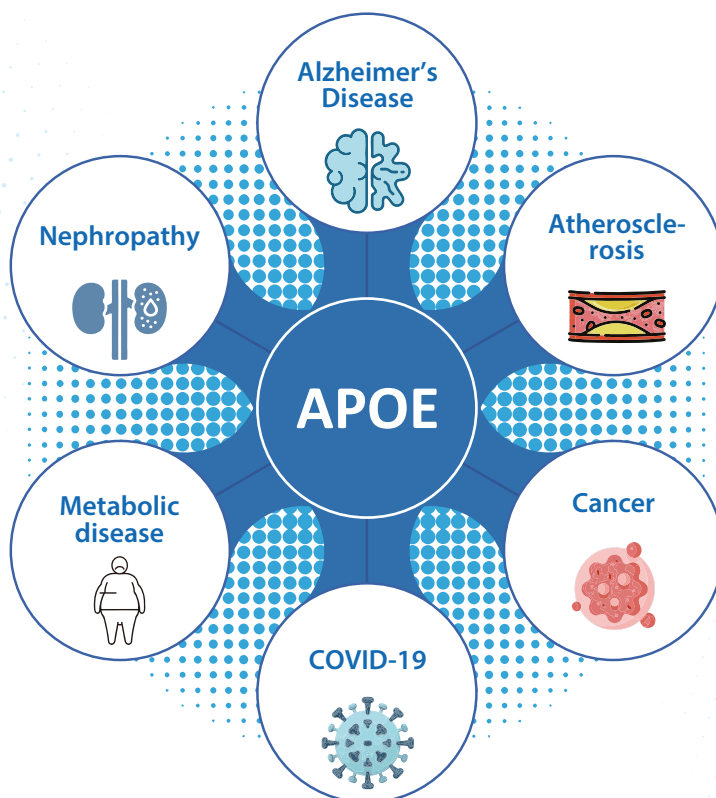
ε3 / ε4

ε2 / ε4

ε4 / ε4



APOE-Related Human Diseases



Alzheimer's Risk Stratification by APOE Genotype

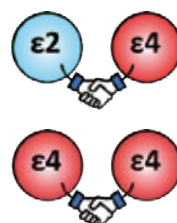
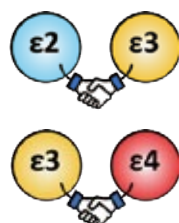
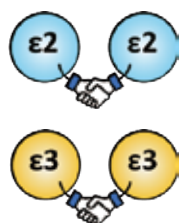
Genotype	ε2ε2	ε2ε3	ε3ε3	ε2ε4	ε3ε4	ε4ε4
Risk Level	Lowest Risk	Low Risk	Average Risk	Increased Risk	High Risk	Highest Risk
Relative Risk	~0.5	~0.6	1.0	~2.6	~3.2	~14.9

Ref:

- 1.Farrer LA, Cupples LA, Haines JL, Hyman B, Kukull AA, Mayeux R, Myers RH, Pericak-Vance MA, Risch N, van Duijn CM. Effects of age, sex, and ethnicity on the association between apolipoprotein E genotype and Alzheimer disease. A meta-analysis. JAMA. 1997 Oct 22-29;278(16):1349-56.
- 2.Liu CC, Liu CC, Kanekiyo T, Xu H, Bu G. Apolipoprotein E and Alzheimer disease: risk, mechanisms, and therapy. Nat Rev Neurol. 2013 Feb;9(2):106-18.
- 3.Corder EH, Saunders AM, Strittmatter WJ, Schmechel DE, Gaskell PC, Small GW, Roses AD, Haines JL, Pericak-Vance MA. Gene dose of apolipoprotein E type 4 allele and the risk of Alzheimer's disease in late onset families. Science. 1993 Aug;261(5123):921-923

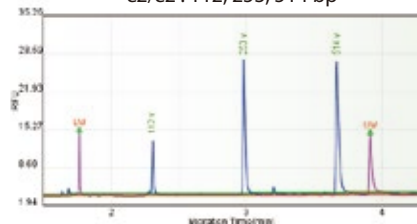


Fragment Analysis of APOE Genotypes

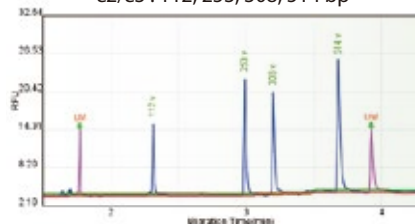


Genotype	Risk of disease
● $\epsilon 2$	Low
● $\epsilon 3$	---
● $\epsilon 4$	High

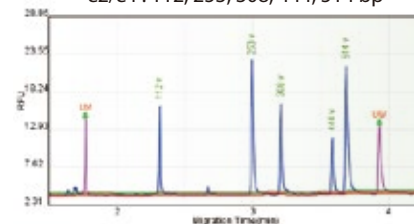
$\epsilon 2/\epsilon 2$: 112, 253, 514 bp



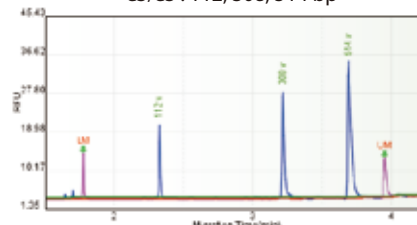
$\epsilon 2/\epsilon 3$: 112, 253, 308, 514 bp



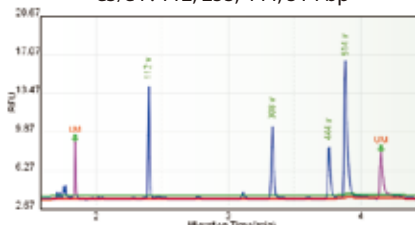
$\epsilon 2/\epsilon 4$: 112, 253, 308, 444, 514 bp



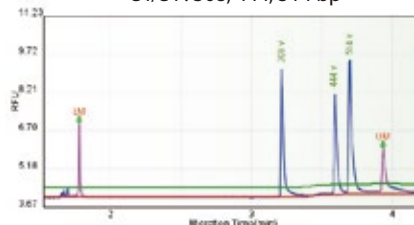
$\epsilon 3/\epsilon 3$: 112, 308, 514 bp



$\epsilon 3/\epsilon 4$: 112, 253, 444, 514 bp



$\epsilon 4/\epsilon 4$: 308, 444, 514 bp



Comparison of APOE Genotyping Methods

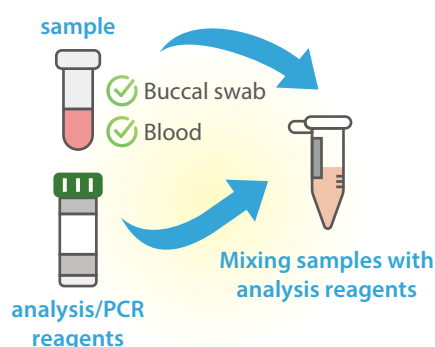
Dimension	INB-G8 (Integrated PCR & CE)	qPCR	NGS
Resolution for APOE	Direct restriction pattern, clear haplotype inference	Ct interpretation	Direct sequencing & variant discovery
Report Turnaround Time	<1 day	~1 day	~2 days
Cost per Test	Low	Medium-High (probes dependent)	Highest



INB-G8 Sample-to-Answer Genotyping Workflow

Sample Collection

- Blood or buccal swab supported
- No complex DNA extraction required



Direct Genotyping System (INB-G8)

- Integrated 2-in-1 platform combining PCR & CE
- Direct-from-sample workflow — eliminates traditional DNA prep steps



Reporting

- 3-minute analysis for multiple targets at once
- Automated report generation





Order Information

Catalog No.	Product	Unit
INB-GT-AP024	INB APOE Gene Genotyping kit	24 rxns
INB-GT-AP048	INB APOE Gene Genotyping kit	48 rxns
INB-GT-CE001	INB-G8 System	1 unit
INB-GT-CE201	INB-G8 S2-Standard Cartridge	100 rxns/pc ; 2 pcs/box
INB-GT-CE301	INB-G8 8-strip Sample Tube	12 strips/bag



INB-G8 Specifications

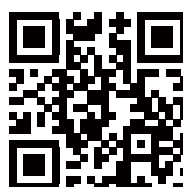
Dimensions	39.5 (L) x 30.0 (W) x 37.0 (H) cm
Weight	14 kg
Power	Input: AC100-240V 50-60Hz Out: DC 24V, 6.67A, 160W (Max)
Light Source	LED
PCR	Sample Capacity: 8 wells *2 Maximum Heating Rate (°C/Sec.): 5°C (Range:40°C-90°C) Maximum Cooling Rate (°C/Sec.): 4°C (Range:90°C-60°C)
CE function	Sample Channel:1 Automated Sampling: 1-8 samples Separated Voltage: 1-8 kV Sample Volume: 10 µL (Minimum) Connection: USB, WIFI Resolution: 1-4 bp (below 500bp, based on C109200) Sensitivity: 5 pg/µL



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