

IDENTIFICATION OF T174M POLYMORPHISM OF ANGIOTENSIOPEN

AMPLI-SET-AGT T174M

Cat. n. 1.353

The coded genes involved in the renin-angiotensin-aldosterone system (RAAS) are responsible for maintaining the homeostasis of the plasmatic concentration of sodium and the regulation of blood pressure. Nowadays it is known that the alterations in this system are liable to many diseases, as fibrosis and heart hypertrophy in patients with high blood pressure and several cardiomyopathies.

Many polymorphisms have been detected to be borne by the renin-angiotensin-aldosterone system genes, like the ins/del (I/D) borne by the ACE gene, the polymorphisms G-217A, G-152A, A-20C, G-6A, M235T and T174M of the gene coding for angiotensinogen and the polymorphism A1166C of the gene coding for the angiotensin II receptor.

The kit allows the polymorphism detection T174M of gene coding angiotensinogen. The polymorphism research is carried out by amplification with specific primers of a 305 bp fragment and, subsequently restriction section made by Nco I enzyme. The single nucleotide polymorphism (SNP) in the exon 2 causes the substitution of threonine amino-acid with the methionine amino-acid.

In many studies the presence of the MM variant has been associated with the development of high blood pressure. Furthermore the study of the association of several polymorphisms of genes involved in RAAS system is very important.

Principle of method: A) extraction of genomic DNA
B) amplification C) enzymatic digestion D) detection
on agarose gel

Applicability: On extracted and purified genomic
DNA from whole blood samples.

Tests: 45

ANALYSIS OF RESULT

The yield of the amplified is di 305 bp; the digested product (normal allele TT) generates a 305 bp fragment, while the other digested product (mutated allele MM) generates two fragments of 208 bp and 97 bp.

REAGENTES AND STORAGE

AMPLIFICATION AND DIGESTION	
PCR mix	-20°C
H ₂ O sterile	-20°C
Taq Polymerase (5U/μl)	-20°C
Nco I enzyme (10U/μl)	-20°C
Digestion BUFFER 10X	-20°C
Heterozygous positive control	-20°C

1	2	3
Normal subject TT	Heterozygous subject TM	Mutated homozygous subject MM
1 band	3 bands	2 bands
305 bp	305 bp 208 bp 97 bp	208 bp 97 bp

Stability: over 18 months if correctly stored.

References:

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