

IDENTIFICATION OF A1 AND A2 ALLELES OF DOPAMINE RECEPTOR (DRD2)

AMPLI-set- DRD2-A1/A2

Cat. n.2.100

The dopamine receptor D2 (DRD2) is the main post-synaptic dopamine receptor in the striated, but it is poorly expressed in prefrontal cortex. The D2 receptors play an important role in the release regulation of dopamine in the brain. A common single nucleotide polymorphism linked to the DRD2 gene on chromosome 11q22-23 is the TaqIA; it is characterized by a polymorphic restriction site. The polymorphism TaqIA has been often associated with alterations in the dopaminergic striatal neurotransmission. Post-mortem examinations and PET scanners suggested that the A1 carriers show a decrease of 30-40% of DRD2 density compared to A2 homozygous in the striated. The A1 and A2 polymorphisms research was carried out, after a specific primers amplification of 301 bp fragment, by an enzyme Taq I restriction cut. The A2 polymorphism, in fact, involves the introduction of a restriction site for that enzyme. In other words the amplified of A1 allele has not been cut while the A2 produces two fragments of e 130 bp.

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

Applicability: on purified and extracted genomic DNA from whole blood, fresh tissue samples or paraffin embedded and mouth swab.

KIT CONTENT AND ITS STORAGE

AMPLIFICATION

PCR mix DRD2	-20°C
sterile H ₂ O	-20°C
Taq Polymerase (5U/μl)	-20°C
Enzyme TAQ I (10U/μl)	-20°C
Digestion Buffer 10X	-20°C
Control A1/A2	-20°C

stability: over 12 months if correctly stored .

requested materials: 1,5 ml tubes; refrigerated tubes holders; sterile tubes with antiaerosol barrier; PCR tubes .

requested reagents not included in the kit:

for DNA extraction we recommend to use:

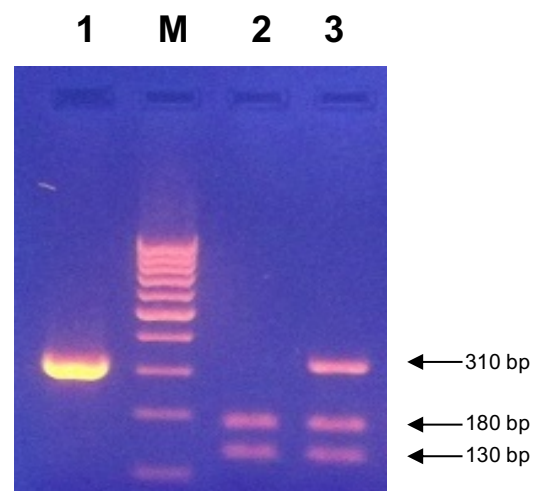
- Extraction DNA Kit from whole blood cat. n. 101
- Extraction DNA Kit from embedded paraffin tissue – cat.n.103
- Extraction DNA Kit from swab- cat.n.105

Requested instrumentation:

pipettes' set: pre-PCR and post-PCR: 0.1 – 10 microlitres, 2 – 20 microlitres, 50 – 200 microlitres, laminar flow cabinet Biohazard class II; PCR instrumentation.

All the materials to the execution of the test must be sterile, DNase and RNase free and single-use.

ANALYSIS OF RESULTS



M: Marker 100 bp ladder

1) homozygous **A1**

2) homozygous **A2**

3) heterozygous **A1/A2**

Eterozigote A1/A2	Omozigote A1/A1	Omozigote A2/A2
310bp	310bp	
180 bp		180bp
130 bp		130bp

REFERENCES

- Richter A Front Hum Neurosci. 5;7:250 (2013).
- Richter A Front Syst Neurosci. 6;8:140 (2014).