

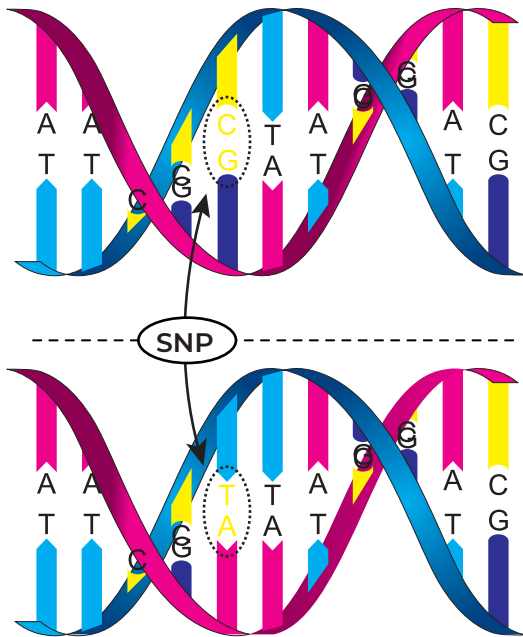


PCR Diagnostic Kits

Single Nucleotide Polymorphisms



Single Nucleotide Polymorphisms



A Single Nucleotide Polymorphisms (SNP) is a variation in a single nucleotide that occurs at a specific position in the DNA, and each possible sequence (allele) is present in at least 1 percent of people

- SNPs are the most abundantly found form of DNA variation in the human genome
- Some of SNPs are involved in regulating several cellular/ physiological processes ranging from gene regulation to disease development
- Identification of SNPs in the laboratory diagnostics can be used to determine the risk of multifactorial disorders
- The presence of SNPs can also affect the metabolism of drugs: so the detection of SNPs may be useful in predicting the response to drug therapy, dose selection, and in the prediction of the therapy success

RealBest kits for SNPs detection

Kit for DNA extraction

Sample type:

- buccal swabs
- whole blood

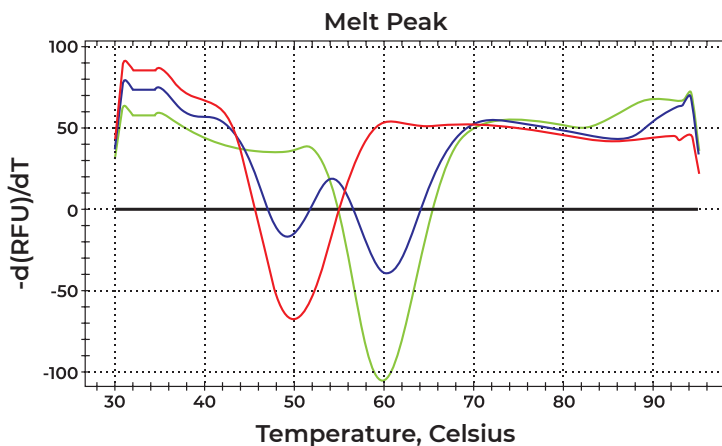
DNA extraction duration:

- 20-25 min



Kits for SNPs detection

- Method: asymmetric PCR with following melting curve analysis of PCR products
- Multiplex PCR: Each SNP is detected within one fluorescent channel; different alleles resulted in different melting temperatures
- Short analysis duration: 80-90 min



SNP: MTHFR C677T

- Allele C – $T_m = 50^\circ\text{C}$
- Allele T – $T_m = 60^\circ\text{C}$
- Heterozygote – $T_m = 49 + 60^\circ\text{C}$

An example of MTHFR C677T genotyping by melting curve analysis using RealBest kits for SNPs detection.

Features of RealBest kits

- Simple nucleic acids extraction
- Complex approach to PCR diagnostics encompassing sample preparation, PCR and evaluation of results
- Easy-to-use: just add extracted DNA into 0.2 ml PCR tubes containing the lyophilized ready-to-use PCR Master Mix and run the test
- Multiplex PCR an assay allows to detect two or three SNPs in one test tube
- Universal and rapid amplification protocol for all SNP detection kits
- The kits are designed for CFX96 (Bio-Rad, USA)
- High stability of the kits, no freezing required
- Transportation at room temperature is allowed



Kits for DNA extraction

Cat. Nº	Kit Name	Number of tests
C-8845	RealBest-Genetics DNA-express A kit for manual DNA extraction from whole blood and buccal epithelium	50
C-8846	RealBest GenMag A kit for automated DNA extraction from whole blood	96



Kits for SNPs detection by real-time PCR

Cat. Nº	Kit Name	Format	Detection Channels	Number of tests
Thrombophilia and hyperhomocysteinemia				
D-3801	RealBest-Genetics Hemostasis (12) Gene: polymorphism – <i>F2:20210G/A; F5:1691G/A; F7:10976G/A; F13A1:c.103G/T; FGB:-455G/A; ITGA2:807C/T; ITGB3:1565T/C; PAI-1:-6755G/4G; MTR:2756 A/G; MTRR:66 A/G; MTHFR:677C/T; MTHFR:1298A/C</i>	Str	FAM, ROX, HEX	48
D-3802 CE	RealBest-Genetics Hemostasis (F2/F5) Gene: polymorphism – <i>F2:20210G/A; F5:1691G/A</i>	Str	FAM, HEX	48
D-3803 CE	RealBest-Genetics Hemostasis (MTR/MTRR/MTHFR) Gene: polymorphism – <i>MTR:2756A/G; MTRR:66A/G; MTHFR:677C/T; MTHFR:1298A/C</i>	Str	FAM, ROX, HEX	48
D-3831 CE	RealBest-Genetics Hemostasis FGB/F13A1 Gene: polymorphism – <i>FGB: -455G/A; F13A1: c.103G/T</i>	Str	FAM, ROX	48
D-3832 CE	RealBest-Genetics Hemostasis ITGA2/F7 Gene: polymorphism – <i>ITGA2:807C/T; F7:10976G/A</i>	Str	FAM, ROX	48
D-3833 CE	RealBest-Genetics Hemostasis PAI-1/ITGB3 Gene: polymorphism – <i>PAI-1:-6755G/4G; ITGB3:1565T/C</i>	Str	FAM, HEX	48
Metabolic disorder				
D-3804 CE	RealBest-Genetics MCM6 Gene: polymorphism – <i>MCM6: -13910C/T</i>	Str	FAM	48
Cardiovascular diseases				
D-3805	RealBest-Genetics NOS3 T(-786)C/G894T Gene: polymorphism – <i>NOS3: T(-786)C; G894T</i>	Str	FAM, ROX	48
D-3806	RealBest-Genetics ACE Del287/AGT T704C Gene: polymorphism – <i>ACE: Del287; AGT: T704C</i>	Str	FAM, HEX	48

Kits for SNPs detection by real-time PCR

Cat. №	Kit Name	Format	Detection Channels	Number of tests
Cardiovascular diseases				
D-3817	RealBest-Genetics CYP11B2 C(-344)T/ADD1 G1378T Gene: polymorphism – <i>CYP11B2</i> : C(-344)T; <i>ADD1</i> : G1378T	Str	FAM, HEX	48
D-3818	RealBest-Genetics AGT C521T/AGTR1 A1166C Gene: polymorphism – <i>AGT</i> : C521T; <i>AGTR1</i> : A1166C	Str	FAM, ROX	48
D-3819	RealBest-Genetics GNB3 C825T/AGTR2 G1675A Gene: polymorphism – <i>GNB3</i> : C825T; <i>AGTR2</i> : G1675A	Str	FAM, ROX	48
Predicting hepatitis C treatment success				
D-3811 CE	RealBest-Genetics Interleukin 28B Gene: polymorphism – <i>IL28B</i> : rs12979860 C/T; rs8099917 T/G	Str	FAM, ROX	48
Reproductive function				
D-3814 CE	RealBest-Genetics AZF microdeletions Gene: polymorphism – <i>AZFa</i> locus: sY-84, sY-86; <i>AZFb</i> locus: sY-127, sY-134; <i>AZFc</i> locus: sY-254, sY-255	Str	FAM, ROX	48
Hereditary mammary gland and ovarian cancer				
D-3807	RealBest-Genetics BRCA (BRCA1 185delAG/3875del4) Gene: polymorphism – <i>BRCA1</i> : 185delAG; 3875del4	Str	FAM, ROX	48
D-3808	RealBest-Genetics BRCA (BRCA1 3819del5/T300G) Gene: polymorphism – <i>BRCA1</i> : 3819del5; T300G	Str	FAM, ROX	48
D-3809	RealBest-Genetics BRCA (BRCA1 2080delA(insA)/BRCA2 6174delT) Gene: polymorphism – <i>BRCA1</i> : 2080delA (insA); <i>BRCA2</i> : 6174delT	Str	FAM, HEX	48
D-3841	RealBest-Genetics BRCA (BRCA1 4153delA/5382insC) Gene: polymorphism – <i>BRCA1</i> : 4153delA; 5382insC	Str	FAM, ROX	48
D-3810	RealBest-Genetics NBS1 Gene: polymorphism – <i>NBS1</i> : 657del5	Str	FAM	48
D-3816	RealBest-Genetics CHEK2 Gene: polymorphism – <i>CHEK2</i> : 1100delC; IVS2+1G>A	Str	HEX, ROX	48
Hereditary HFE-associated hemochromatosis (Hemochromatosis type I)				
D-3822 CE	RealBest-Genetics Hemochromatosis (HFE 187 C/G) Gene: polymorphism – <i>HFE</i> : 187 C/G (His63Asp)	Str	ROX	48
D-3823 CE	RealBest-Genetics Hemochromatosis (HFE 193 A/T) Gene: polymorphism – <i>HFE</i> : 193 A/T (Ser65Cys)	Str	FAM	48
D-3824 CE	RealBest-Genetics Hemochromatosis (HFE 845 G/A) Gene: polymorphism – <i>HFE</i> : 845 G/A (Cys282Tyr)	Str	FAM	48
Pharmacogenetics of warfarin				
D-3827 CE	RealBest-Genetics Warfarin (CYP2C9*2/CYP2C9*3) Gene: polymorphism – <i>CYP2C9</i> : 430 C/T; 1075 A/C	Str	FAM, ROX	48
D-3828 CE	RealBest-Genetics Warfarin (VKORC1/CYP4F2*3) Gene: polymorphism – <i>VKORC1</i> : 1173 C/T; <i>CYP4F2</i> : 1297 C/T	Str	HEX, ROX	48
D-3829 CE	RealBest-Genetics Warfarin (GGCX) Gene: polymorphism – <i>GGCX</i> : rs11676382 C/G	Str	FAM	48
D-3830 CE	RealBest-Genetics Warfarin (CYP2C9*5/CYP2C9*6) Gene: polymorphism – <i>CYP2C9</i> : 1080 C/G; 818 delA	Str	HEX, ROX	48
Autoimmune disease				
D-3836 CE	RealBest-Genetics HLA-B*27 Gene: polymorphism – <i>HLA-B*27</i>	Str	FAM, ROX	48
Gilbert's syndrome				
D-3813 CE	RealBest-Genetics UGT1A1 Gene: polymorphism – <i>UGT1A1</i> : 5TA/6TA/7TA/8TA	Str	FAM, HEX	48