

Direct MTHFR2 Genotyping PCR Kit

MTHFR2 SNP C667T, rs1801133

Component	Cat#	G8080.0025	G8080.0100	Colour code of cap
Genotyping PCR Mastermix		G8060.0025MM 100µL for 25x 20µL reactions	G8060.0100MM 400µL for 100x 20µL reactions	blue
MTHFR2 Primers & Probes Mix		G8080.0025PP 150µL	G8080.0100PP 600µL	green

For customized or bulk orders, please contact us: info@genaxxon.com.
 Additional SNP targets available upon request.

Description

The **Genaxxon Direct MTHFR2 Genotyping PCR Kit** allows for reliable identification of the **rs1801133 allele** by PCR from various biological samples such as saliva, oral swabs, blood, urine, and extracted DNA.

Designed for the accurate identification of **MTHFR2 SNP C667T, rs1801133**, this kit supports the detection of a common genetic variant that significantly **decreases the efficiency of the MTHFR enzyme**, leading to **elevated homocysteine levels and reduced folate availability**. Early detection supports clinical decisions on nutritional supplementation and preventive care to reduce associated health risks.

Advantages

No DNA extraction required – direct PCR from crude samples.

Hot-start formulation – allows reaction setup at room temperature.

Platform-independent – compatible with all modern real-time PCR cyclers.

Fluorescence measurement in the FAM channel for genotype determination.

Environmentally friendly shipping – stable at room temperature during transport.



Shipment: not cooled



Short-Term Storage: Stable for up to 10 uses or 2 weeks at 4°C.

Long-Term Storage: Stored at -20°C immediately upon receipt.
Protect Primers & Probes mix from light exposure.



Shelf-life: Stable until expiration date when stored and handled correctly



Important notes before getting started

- Prepare reactions away from DNA prep/PCR analysis areas.
- Use filtered tips to prevent cross-contamination.

We Aim for Your Success.

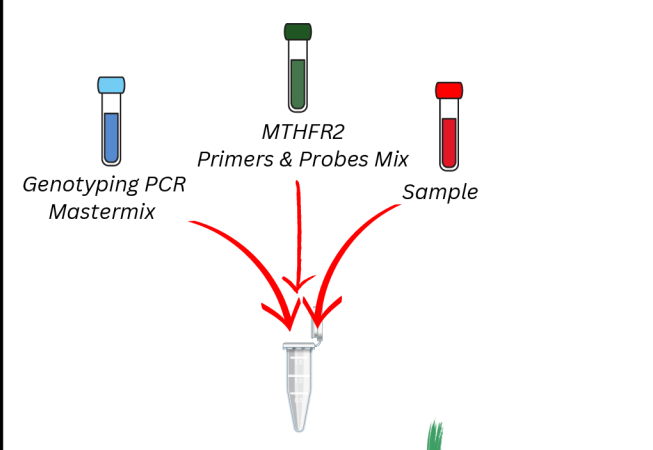
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Sample Preparation Guidelines

Sample type	Preparation Steps
 Blood	Add 5 μ L in 495 μ L water, mix. From this mix, take 10 μ L and add into the PCR mix. This results in 0.5% final blood concentration
 Extracted DNA	Add 10 μ L in 90 μ L water, mix. From this mix, take 10 μ L and add into the PCR mix. This results in 0.1 - 1.0 ng/ μ L final DNA concentration
 Dried Blood Spot	Add one punch (1mm ²) and 10 μ L water directly into the PCR mix.
 Oral Swab	Add 1–10 μ L to the PCR mix and adjust the final volume to 20 μ L with water.
 Saliva	10 μ L in 490 μ L water, mix. From this mix, take 10 μ L and add into the PCR mix.
 Urine	Add 1–2 μ L to the PCR mix and adjust the final volume to 20 μ L with water.

PCR Protocol

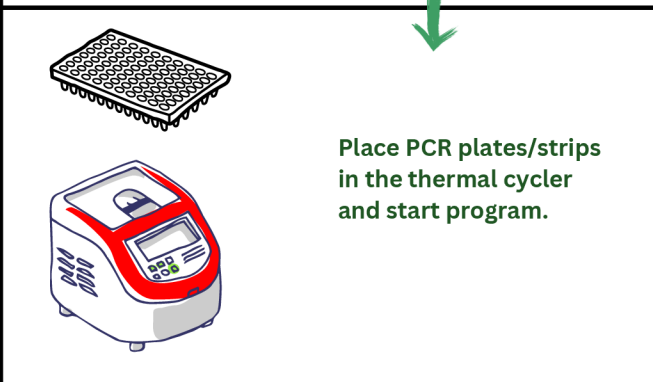
PCR protocol	
Components	Volumes
Genotyping PCR Mastermix	4 μ L
MTHFR2 Primers & Probes Mix	6 μ L
Sample (as prepared)	10 μ L
Total Volume	Σ 20 μL



Genotyping PCR Mastermix

MTHFR2 Primers & Probes Mix

Sample



Place PCR plates/strips in the thermal cycler and start program.

PCR conditions		
Step	Time	Temperature
Denaturation	5 sec	95 °C
Annealing/Extension	30 sec	60 °C
		} 50 cycles
Followed by		
Melting Curve Measurement in FAM channel		45 - 85 °C

Interpretation of Results by Melting Curve Analysis

Genotype	Shape	Melting Peak
G/G (Homozygous, Wildtype)	Single Peak	~ 71 °C
G/A (Heterozygous)	Double Peak	~ 62 °C & ~ 71 °C
A/A (Homozygous, Mutant)	Single Peak	~ 62 °C



Safety information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online as pdf-file or on request (info@genaxxon.com).



Product Use Limitations

Direct MTHFR2 Genotyping PCR Kit is developed, designed, and sold for research purposes only. It is not to be used for human, diagnostic or drug purposes or to be administered to humans unless expressly cleared for that purpose by the Food and Drug Administration in the USA or the appropriate regulatory authorities in the country of use. All due care and attention should be exercised in the handling of many of the materials described in this manual.

Related Products

Cat #	Description
G8010	Direct Factor II Genotyping PCR Kit (SNP G20210A, rs1799963)
G8020	Direct Factor V Leiden Genotyping PCR Kit (SNP G1691A, rs6025)
G8030	Direct HFE1 Genotyping PCR Kit (SNP G845A, rs1800562)
G8040	Direct HFE2 Genotyping PCR Kit (SNP C187G, rs1799945)
G8050	Direct Lactose Intolerance Genotyping PCR Kit (LCT SNP C13910T, rs4988235)
G8080	Direct MTHFR1 Genotyping PCR Kit (SNP A1298C, rs1801131)

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Further information

For more information, please visit our website: www.genaxxon.com
or contact us:

Tel. 0731 - 3608 123

Fax 0731 - 3608 962

info@genaxxon.com

