



Practitioner report



Methylation Report

Methylation Profile

Overview of the chosen profile/s for this report.

including gene expression, DNA methylation, homocysteine and methionine. The folate pathway is involved in immune function and the detoxification of carcinogens. Altered methylation patterns have been linked to cancer, fertility, cardiovascular, hormonal, immune system, and neurological health.

Genetic variations (SNPs) that have been shown to affect methylation include those in the methionine metabolism, B vitamin levels, and folate pathway.

Legend

- No effect
- Pay attention
- Pay close attention

Provides quick identification of gene effect for practitioner.

- Wild type
- Heterozygous
- Homozygous

Identifies gene result.

Folate pathway

Each profile is allocated into sub-profiles to assist the practitioner in understanding of specific biochemical pathways.

5-methyltetrahydrofolate (5-methylTHF) that are required for the synthesis of methionine, a nucleotide for DNA synthesis and repair, homocysteine

Gene	Gene variation	rs number	Result	Effect
MTHFD1	G1958A	rs2236225	GA - +	
MTHFR	C677T	rs1801133	TT + +	
SHMT1	C1420T	rs1979277	CC - -	
MTHFD1	C105T	rs1076991	CC - -	
MTHFR	A1298C	rs1801131	AA - -	

This outlines the gene results specific to your patient and identifies the potential effect of each.

Homocysteine-Methionine pathway

Each sub-profile includes a brief description of the biochemical pathway and its importance in the body.

homocysteine (Hcy) and methionine metabolism. 5-methylTHF donates methyl groups to homocysteine in independent enzyme reactions. Methionine is used for protein production. SAM is the

Gene	Gene variation	rs number	Result	Effect
BHMT	G742A	rs3733890	GA - +	
MTRR	A66G	rs1801394	AA - -	
MTR	A2756G	rs1805087	AG - +	

The 'effect legend' identifies at a quick glance, which SNPs the practitioner should pay attention to.

Shows the location of the gene and researched 'rs number' assessed.

Prescribing practitioner :
Jane Smith
(Patient Account)

Report for:
John Citizen
Swab#RES000007 | Jan 11, 2018

Folate Pathway > MTHFR

Methylation Profile Report

Identifies patient specific gene result.

Gene	Gene variation	rs number	Result	Effect
MTHFR	C677T	rs1801133	CC	--

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Gene Description

Outlines specific biochemical function of the gene.

The enzyme that converts one form of methyltetrahydrofolate (5-MTHF). MTHFR is a key enzyme in the folate metabolism supporting methylation. It converts homocysteine to methionine. Methionine is used in the production of S-adenosylmethionine (SAM), which is the primary donor of methyl groups for methylation reactions. Reduced MTHFR activity, which can be associated with increased risk for pregnancy complications, may require adequate nutrient levels and

What do your results mean?

Reviews the function of the gene in relation to the patient's results.

Reduced enzyme activity and may increase the risk for neural tube defects. The AA genotype is associated with increased risk for neural tube defects, while GA has a minor effect. Reduced MTHFR activity can affect homocysteine metabolism, depending on the genotype. Homocysteine levels may be associated with increased risk for pregnancy complications and B vitamins.

Level of Evidence Star Rating

- Methylation ★★
- Enzyme Activity ★★★
- Folate And Homocysteine ★★★★★

Based on the Oxford Centre for Medical Evidence, the star rating is provided to identify the existing evidence for the gene.



Methylation Report

Supportive Nutrients

Legend

- No effect
- Pay attention
- Pay close attention

- - Wild type
- + Heterozygous
- + + Homozygous

<ul style="list-style-type: none"> 0 Betaine 1 BHMT 	<p>Provides suggested nutrients in relation to your patient's report findings.</p>
<ul style="list-style-type: none"> 0 Choline 2 MTHFD1, BHMT 	
<ul style="list-style-type: none"> 1 Digestive enzymes 0 FUT2 	
<ul style="list-style-type: none"> 1 Folates 2 MTR, MTHFD1 	<ul style="list-style-type: none"> MTHFR
<ul style="list-style-type: none"> 0 Glutathione 1 CBS 	<p>Identifies nutrient frequency in relation to each gene variant assessed.</p>
<ul style="list-style-type: none"> 0 Iron 1 FUT2 	



Methylation Report

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Supportive Diet & Lifestyle

<p>1 Diet low in Vitamin B12 not recommended</p> <p>2 <input checked="" type="radio"/> MTR, FUT2 <input checked="" type="radio"/> TCN2</p>	<p>Provides suggested diet and lifestyle interventions based on your patient's report findings.</p>
<p>1 Diet supportive of good gut health</p> <p>0 <input checked="" type="radio"/> TCN2</p>	
<p>0 Increase choline rich foods</p> <p>1 <input checked="" type="radio"/> MTHFD1</p>	
<p>0 Increase foods high in methionine</p> <p>1 <input checked="" type="radio"/> CBS</p>	
<p>1 Increase green leafy vegetables</p> <p>4 <input checked="" type="radio"/> MTR, CBS, MTHFD1, BHMT <input checked="" type="radio"/> MTHFR</p>	
<p>2 Increase Vitamin B12 rich foods</p> <p>2 <input checked="" type="radio"/> MTR, FUT2 <input checked="" type="radio"/> FUT2, TCN2</p>	
<p>Identifies diet and lifestyle frequency in relation to each assessed gene variation.</p>	



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Clinical Test Consideration

0 Ceruloplasm

1 Pyrroluria may impact levels of zinc, copper and vitamin B6. Zinc and Vitamin B6 are important cofactors for parts of the methylation cycle. To be done in conjunction with plasma zinc and serum copper to evaluate copper levels.

CBS

1 Comprehensive Stool Test

0 To determine gut microbiota, which may impact on gut health and B12 absorption.

FUT2

Provides further clinical testing considerations for your patient based on their gene variations.

1 Folinic acid and 5-MTHF level

2 To determine normal folate levels and possible impact of gene on enzyme activity

MTR, MTHFD1 MTHFR

Identifies nutrient frequency in relation to each assessed gene variant.

3 Full blood count

4 Assists to identify possible Vitamin B6, folate and Vitamin B12 deficiencies. These nutrients are required for balanced methylation

MTR, BHMT, MTHFD1, FUT2 TCN2, MTHFR, FUT2