PATIENT AND SAMPLE DETAILS

Name	Sample Patient	Protocol / sample	
National ID		Sample type	Peripheral blood (K3-EDTA)
Birth / sex		Sample received	
Requesting physician		Report date	

Panel Twist BIODECODE PGx V2 · 67 loci · GRCh38

For this patient, the standard dose is not suitable for 28 drugs.

Detailed recommendations with full guideline text are given in the section pages.

× 16 alternative drug
▲ 5 dose adjustment
◆ 7 clinical guidance

301 drugs and drug groups assessed

PATIENT GENOTYPE

CYP2D6	CYP2C19	SLCO1B1	CYP3A5	UGT1A1	CYP2C9	DPYD
*1x2/*1	*1/*17	*1/*5	*1/*3	*1/*28	*1/*1	*1/*1
Ultrarapid Metab.	Rapid Metab.	Decreased Function	Expresser (partial)	Intermediate Metab.	Normal Metab.	Normal Metab.
AS 3.0						

DRUGS REQUIRING ACTION

full texts in the section pages

× Codeine	CYP2D6	Consider alternative drug	CPIC
× Tramadol	CYP2D6	Consider alternative drug	CPIC
× Ondansetron	CYP2D6	Consider alternative drug	CPIC
× Amitriptyline	CYP2D6	Consider alternative drug	CPIC
× Simvastatin	SLCO1B1	Consider alternative drug	CPIC
▲ Tacrolimus	CYP3A5	Dose adjustment	CPIC
▲ Atorvastatin	SLCO1B1	Dose adjustment	CPIC
◆ Escitalopram	CYP2C19	Clinical guidance	CPIC

+ 20 more drugs — all in the section pages

CONDITIONS THAT MAY CHANGE THIS INTERPRETATION

- **Phenoconversion** — 9 drugs in this report may change the genotype-based verdict of another drug in the same report.
- **Authority difference** — For 4 drugs, CPIC, DPWG and FDA give different verdicts for the same genotype.

In the section pages: findings for this patient · genotype profile · full guideline text for drugs requiring action · alphabetical drug index · authority differences · analytical coverage, methods and source governance.

For research use · not IVD-approved. A clinical decision-support tool; to be interpreted together with diagnosis, history, concomitant medication and physician judgement.

FICTIONAL SAMPLE

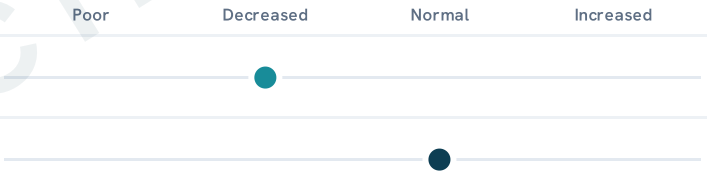
02 Genotype profile

Phenotype terminology follows the gene class: metabolizer, transporter function, expresser, risk allele.

METABOLISING ENZYMES

CYP2D6 *1x2/*1	Ultrarapid Metabolizer · AS 3.0	
CYP2C19 *1/*17	Rapid Metabolizer	
UGT1A1 *1/*28	Intermediate Metabolizer	
NAT2 *4/*5	Intermediate Metabolizer	
CYP2C9 *1/*1	Normal Metabolizer	
CYP2B6 *1/*1	Normal Metabolizer	
CYP3A4 *1/*1	Normal Metabolizer	
DPYD *1/*1	Normal Metabolizer	
TPMT *1/*1	Normal Metabolizer	
NUDT15 *1/*1	Normal Metabolizer	

TRANSPORTER FUNCTION



SLCO1B1 *1/*5	Decreased Function	
ABCG2 rs2231142 G/G	Normal Function	

EXPRESSER · DOSING ALGORITHM · HLA

CYP3A5 *1/*3	Expresser (partial)	The CPIC term "Normal" means expresser
VKORC1 -1639 G/A	No phenotype assigned	Used in the warfarin dosing algorithm
CYP4F2 *1/*1	No phenotype assigned	Used in the warfarin dosing algorithm
HLA-B *15:02 · *57:01 · *58:01	Risk Allele Negative	Shared by all typing solutions
HLA-A *31:01	Risk Allele Negative	Shared by all typing solutions

FICTIONAL SAMPLE

08 Cardiology

Actionable findings for 6 drugs. Each card shows the verdict, the gene it comes from and the full guideline text.

Simvastatin

✕ Alternative drug

SLCO1B1 CPIC guideline Lipid-lowering drugs

CPIC ***SLCO1B1***

Prescribe an alternative statin depending on the desired potency. If simvastatin therapy is warranted, limit the dose to <20 mg/day.

DPWG ***SLCO1B1***

Choose an alternative. Consider additional risk factors for statin-induced myopathy.

SLCO1B1 PA166264281 · PMID 35152405

Atorvastatin

▲ Dose adjustment

SLCO1B1 CPIC guideline Lipid-lowering drugs

CPIC ***SLCO1B1***

Prescribe ≤40 mg as a starting dose and adjust doses of atorvastatin based on disease-specific guidelines. Prescribers should be aware of a possible increased risk of myopathy, especially at 40 mg.

SLCO1B1 PA166264281 · PMID 35152405

Clopidogrel

● Standard dose

CYP2C19 CPIC guideline Antithrombotic drugs

CPIC ***CYP2C19***

If considering clopidogrel, use at standard dose (75 mg/day).

CYP2C19 · PMID 35034351

FICTIONAL SAMPLE

01 Findings for this patient

Measured findings beyond star-allele calling: HLA risk alleles, CYP2D6 assessment and loss-of-function screening.

HLA RISK ALLELES

5 alleles screened · 0 positive · 5 negative

Allele	Status	Related drug	Source
B*57:01	negative	abacavir	CPIC A
B*15:02	negative	carbamazepine, oxcarbazepine, phenytoin	CPIC A
A*31:01	negative	carbamazepine	CPIC A
B*58:01	negative	allopurinol	CPIC A
B*13:01	negative	dapsone	DPWG / literature

CYP2D6 — ASSESSMENT

Diplotype (most likely)	*1x2/*1
Phenotype (CPIC)	Ultrarapid Metabolizer · activity score 3.0
Depth ratio	1.46 — consistent with increased copy number
Alternative scenario	*1/*1 (AS 2.0 · Normal Metabolizer) — copy number could not be confirmed from short-read data
Drugs whose verdict would change	Codeine, Tramadol, Ondansetron, Amitriptyline

For a definitive class, a *CYP2D6*-specific confirmatory test (MLPA or long-read) is recommended.

LOSS-OF-FUNCTION (LOF) SCREENING

41 genes · 280 missense variants scored

This section does **not change** the phenotype; the functional effect of non-star-allele variants is often unverified.

CYP2C8 p.Gly365Ser — Heterozygous — Uncertain (VUS) — <0.01%

ACMG PM2 · lab ACMG score +2 · AlphaMissense 0.41

FICTIONAL SAMPLE