PATIENT INFORMATION
NAME: John Doe
DOB: 01/Feb/1958
SEX AT BIRTH: Male

SPECIMEN DETAILS
BARCODE: LabGxTestReport11052023
SAMPLE ID: SID-LabGxTestReport11052023
TYPE: Swab
COLLECTED: 11/May/2023

ORDERED BY
provider name
GENERATED: 11/May/2023

Summary of Genetic Lab Data & Phenotypes

Attention

Clinically significant alleles were detected in the HLA genes which are associated with increased risk for severe drug-induced cutaneous adverse reactions (SCAR), including Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN), drug reaction with eosinophilia and systemic symptoms (DRESS), and maculopapular exanthema (MPE).

Allopurinol: See FDA product monograph and CPIC guideline(doi:10.1038/clpt.2012.209)
Carbamazepine: See FDA product monograph and CPIC guideline(Tegretol Product Monograph, 2018)
Fosphenytoin: See FDA product monograph and CPIC guideline(Cerebyx Product Monograph, 2020)
Oxcarbazepine: See FDA product monograph and CPIC guideline(Trileptal Product Monograph, 2015)
Phenytoin: See FDA product monograph and CPIC guideline(Dilantin Product Monograph, 2018)

Gene	Allele Result	Phenotype Result
CYP2A6	*1/*9	Normal Metabolizer
CYP2D6	(*1/*1)3N	Ultrarapid Metabolizer
CYP2C9	*3/*3	Poor Metabolizer
CYP2C19	*1/*1	Normal Metabolizer
SLCO1B1	*1/*1	Normal Function
CYP2B6	*1/*1	Normal Metabolizer
CYP3A4	*1/*1	Normal Metabolizer
CYP3A5	*3/*3	Poor Metabolizer
UGT1A1	*1/*80	Intermediate Metabolizer
TPMT	*1/*1	Normal Metabolizer
NUDT15	*1/*1	Normal Metabolizer
DPYD	*1/*1	Normal Metabolizer

Gene	Allele	Result
HLA-A	*31:01	Positive
HLA-B	*15:02	Positive
HLA-B	*44:03	Negative
HLA-B	*58:01	Positive
HLA-B	*57:01	Positive

This is a short summary of the full medication report. The patient's results are now accessible within the clinical decision support software, TreatGx and ReviewGx, and can be used with other clinical information to enable precision prescribing and medication management. The final genotype/phenotype call is at the discretion of the laboratory director. Medication changes should only be initiated at the discretion of the patient's healthcare provider after a full assessment.

Methods

The results meet stringent quality control metrics for DNA isolation and genotyping. SNPs are processed in an OpenArray platform. Each call has an estimated quality value >95%, based on the autocaller algorithm in the TaqMan® Genotyper software (ThermoFisher Scientific). Copy number calls are accepted when confidence values are >95%. The HLA assays are processed using an RT-PCR-based presence/absence assay, and HLA positive calls are sequenced using Sanger technology to confirm. To avoid false negatives in HLA genotyping, if the presence/absence assay results are uncertain and Sanger sequencing results do not confirm them, a positive call is made.

Limitations

The annotations and interpretations provided in this report are based on scientific literature and do not take into account drug-drug interactions, medical conditions or other clinical factors that may affect medication response. Gene-drug interactions are ranked according to guidelines, level of evidence and clinical utility. GenXys reports and TreatGx Clinical Decision Support are regularly updated. Current predicted phenotype and allele functionality may change in the future depending on new evidence. Phenotype annotations for CYP2C9 are based on total activity scores as defined by CPIC[7 9]. Genetic test results and interpretation may be inaccurate for individuals who have undergone or are receiving non-autologous blood transfusion, tissue, or organ transplant therapies.

The report includes alleles of proteins involved in the metabolism of many medications. In rare cases, a variant that is not covered may be typed as *1 or other variants. In the case of pseudogenes and mutations in the untranslated regions of genes, incorrect allele typing may occur despite proper SNP detection. Preferential amplification of one allele over another present in the sample may also lead to incorrect genotyping.

Liability Disclaimer

This test was developed and its performance characteristics determined by GenXys Health Care Systems. It has not been cleared or approved by the US Food and Drug Administration. The report is not a diagnostic test, and TreatGx is not a prescribing system. You should discuss your pharmacogenetic information with a physician or other health care provider before you act upon the pharmacogenetic information resulting from this report. The medication brand names are not an exhaustive list and do not include combination therapies. Not all medications in this report are included in the TreatGx or ReviewGx software or other GenXys derivative works.

11/May/2023

Date of Signature

Jamie Smith, Laboratory Director, MD,
FRCP(C), FRSC, ABIM, CLIA
#SAMPLE258, CAP #1234567

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Analgesia	Alfentanil Carisoprodol Fentanyl Hydrocodone Morphine	Meloxicam Piroxicam Tenoxicam		Celecoxib Flurbiprofen Ibuprofen	Celecoxib Flurbiprofen Ibuprofen Meloxicam Piroxicam Tenoxicam	Acetylsalicylic acid Celecoxib Flurbiprofen Ibuprofen Meloxicam Piroxicam Tenoxicam		Codeine Imipramine Tramadol
Anesthesia	Desflurane Isoflurane Methoxyflurane Sevoflurane Succinylcholine							
Autoimmune	Azathioprine Cevimeline Cyclosporine Mercaptopurine Tacrolimus Thioguanine				Etanercept			Siponimod
Cancer	Capecitabine Fluorouracil					Erdafitinib Tamoxifen		
Cardiovascular	Atorvastatin Carvedilol	Flecainide Metoprolol			Flecainide Metoprolol	Acetylsalicylic acid Benazepril	Fluvastatin Warfarin	

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	Clopidogrel Lovastatin Nebivolol Pitavastatin Pravastatin Propranolol Rosuvastatin Simvastatin				Propafenone	Captopril Cilazapril Enalapril Fosinopril Lisinopril Perindopril Quinapril Ramipril Trandolapril		
Endocrinology					Gliclazide Glimepiride Glyburide Tolbutamide			
Gastroenterology	Metoclopramide		Dexlansoprazole Lansoprazole Omeprazole Pantoprazole	Dronabinol	Dronabinol	Dronabinol		Ondansetron
Infection	Amikacin Atazanavir Efavirenz Gentamicin Paromomycin Plazomicin Streptomycin Tobramycin Voriconazole				PEG-interferon alpha			Abacavir Dapsone Nitrofurantoin Primaquine Tafenoquine

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Mental Health	Amoxapine Amphetamine Aripiprazole lauroxil Atomoxetine Citalopram Donepezil Escitalopram Fluvoxamine Protriptyline Sertraline Vortioxetine	Risperidone	Venlafaxine		Bupropion Risperidone Venlafaxine	Alprazolam Aripiprazole Asenapine Brexpiprazole Bromazepam Cariprazine Chlordiazepoxide Chlorpromazine Clobazam Clonazepam Clorazepate Clozapine Diazepam Flupentixol Fluphenazine Flurazepam Haloperidol Iloperidone Lamotrigine Lorazepam Loxapine Lurasidone Methotrimeprazine Molindone Nitrazepam Olanzapine Oxazepam Paliperidone Perphenazine		Amitriptyline Carbamazepine Clomipramine Desipramine Doxepin Imipramine Nortriptyline Oxcarbazepine Paroxetine Phenytoin Trimipramine Zuclopenthixol

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						Pimozide Prochlorperazine Promethazine Quetiapine Temazepam Thioridazine Triazolam Trifluoperazine Ziprasidone		
Neurology	Brivaracetam Deutetrabenazine Donepezil Galantamine Tetrabenazine Valbenazine		Venlafaxine		Venlafaxine	Clobazam Clonazepam Diazepam Lamotrigine		Amitriptyline Carbamazepine Desipramine Fosphenytoin Nortriptyline Oxcarbazepine Phenytoin
Other	Avatrombopag Cold medication Elagolix Eltrombopag Flibanserin Lofexidine Oral contraceptives	Nicotine replacement therapy Varenicline		Meclizine	Meclizine			Eliglustat Methylene blue
Respiratory	Formoterol Salmeterol							

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Rheumatology		Meloxicam Piroxicam Tenoxicam		Celecoxib Flurbiprofen Ibuprofen	Celecoxib Flurbiprofen Ibuprofen Meloxicam Piroxicam Tenoxicam	Celecoxib Flurbiprofen Ibuprofen Meloxicam Piroxicam Tenoxicam		Allopurinol Pegloticase Rasburicase
Urology	Darifenacin Fesoterodine Mirabegron Sildenafil Tamsulosin Tolterodine							