personalized prescribing
next gen pharmacogenetics

Name: Sarah Budwaski
Sample ID: EF664010
Physician: Dr. Bill Willis

Sample Type: Saliva
Received: 16-Dec-24
Reported: 23-Dec-24

175 West Beaver Creek, Unit 24
Richmond Hill, ON L4B 1L1

Rx Report™ - Psychiatry - Anxiety & Depression

Pharmacogenomic Test (Highly Confidential)

Result Summary

Dear Dr. Bill Willis,
Sarah is diagnosed with depression, anxiety, PTSD, and ADHD and requested a pharmacogenomic test

We have analyzed your patient's list of genes known to be associated with psychotropic drugs; the genetic results are outlined in the lab report. I am the pharmacist assigned to your patient; I have interpreted your patient's genetic results using our proprietary software.

Pharmacist's Recommendation

Taper off Mirtazapine, then titrate Sertraline starting at 50 mg to therapeutic dose. If the patient reports anhedonia, numbness or loss of motivation, use Bupropion as an adjunct.

Please do feel free to contact me if you have any questions.

Reported By:
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Basal Neurotransmitter Levels

This information is intended to assist the physician in prescribing medication suitable for the patient's basal neurotransmission levels.
Based on current scientific evidence, we analyzed your patient's basal / homeostasis levels of the three main neurotransmitters: serotonin, dopamine and norepinephrine (lowest -10, highest +5). These levels are determined by analyzing genetic variants in neurotransmitter synthesis, breakdown/metabolism, transport/reuptake, and auto-receptor regulation. Discover how basal neurotransmission levels may play a critical role in selecting the most appropriate medication. personalizedprescribing.com/basal-neurotransmission-levels

Neurotransmetteurs	Main Function	Patient's Basal Level	Indication	Score
Serotonin	Mood Regulation	High Level	These patients may not respond well to serotonergic medications, such as SSRIs. They are better candidates for dopaminergic or noradrenergic drugs.	1
Dopamine	Attention Span and Motivation	Normal Level	Dopamine is unlikely the cause of the patient's condition.	-0.5
Norepinephrine	Alertness and Stress Response	Low Level	These patients are predisposed to low motivation and poor concentration. if they have anxiety, they may not respond well to SSRIs alone, as that may further reduce norepinephrine levels. They are moderate candidates for stimulants or atomoxetine as monotherapy or adjuncts.	-3

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Detailed Drug Response

We offer a comprehensive report on the patient's drug profile, including drug suitability, metabolic processing, blood-brain barrier permeability, efficacy (response), dosage, and possible side effects. This analysis draws on scientific evidence from CPIC, DPWG, and FDA guidelines, emphasizing pharmacokinetics (drug metabolism) and pharmacodynamics (mechanism of action and genetic variability in target genes).

Suitability refers to the selection of drugs based on the patient's basal neurotransmitter levels.

Metabolism assesses the patient's ability to metabolize / clear the drug and indicates drug concentration in the blood.

Blood Brain Barrier determines the efflux of drugs from the brain. Listed here only when applicable.

Efficacy / **drug response** assesses the probability that the drug will effectively bind to its target receptors to achieve the desired effect.

Side effects are undesired effects of drugs; listed here only if they are likely to occur.

A drug might be suitable for a patient based on their condition but may result in poor response due to genetic variations in drug receptors that may lower efficacy, or conversely, a drug might be less suitable but still yield a strong clinical response.

No drug details are displayed after an ***"Avoid if possible"*** *recommendation.*

Legend:

Intensity of drug attribute		Meaning
Red		Significant reasons to avoid the drug
Yellow		Certain issues with the drug, read carefully
Green		Likelihood of positive outcome

Integrated drug response		Meaning
⊗		Avoid the drug
⚠		Caution, potential issues with drug efficacy or side effects. May need increased dose or adjunct medication
✔		Proceed with the drug

Disclaimer:

- **While the mechanisms of action for most drugs are generally understood, some remain partially unknown.**
- **The expression of genetic variants used in our algorithms are well-documented, though some uncertainties remain regarding their accuracy and overall impact.**
- **Other, as-yet-unidentified genes may also play a role in the efficacy or side effects of the drugs evaluated in this report.**

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Selective Serotonin Reuptake Inhibitors (SSRI)

✔ Citalopram

CYP2C19 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Good Response to Citalopram
Based on the analysis of the patient's expressions of serotonin auto receptor and the serotonin transporter. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

ⓘ Escitalopram

CYP2C19 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Repose to Escitalopram
Based on the analysis of the patient's expressions of serotonin auto receptor and the serotonin transporter. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

ⓘ Fluoxetine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Response to Fluoxetine
Based on the analysis of the patient's expressions of serotonin auto receptor, the serotonin transporter and the serotonin 2C receptor. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

✔ Fluvoxamine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Good Response to Fluvoxamine
Based on the analysis of the patient's expressions of serotonin auto receptor and the serotonin transporter. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

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Paroxetine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Good Response to Paroxetine
Based on the analysis of the patient's expressions of serotonin auto receptor and the serotonin transporter. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

Sertraline

CYP2C19 & CYP2B6 Normal Metabolizer
Normal or elevated CYP2C19 combined with normal or reduced CYP2B6 enzyme activity. If selected, initiate therapy with recommended starting dose.

Good Response to Sertraline
Based on the analysis of the patient's expressions of serotonin auto receptor, serotonin transporter, and expression of the dopamine transporter. Avoid if possible. Caution: moderate response may be diminished by side effects and may necessitate an adjunct.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

Serotonin / Norepinephrine Reuptake Inhibitors (SNRI)

Desvenlafaxine

Metabolism
Desvenlafaxine treatment is not dependent on the cytochrome P450 family.

Moderate Response to Desvenlafaxine
Based on the analysis of the patient's dopamine and norepinephrine levels, along with the expressions of serotonin auto receptor, serotonin transporter, and the norepinephrine transporter.

Duloxetine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Response to Duloxetine
Based on the analysis of the patient's dopamine and norepinephrine levels, along with the expressions of serotonin auto receptor, serotonin transporter, and the norepinephrine transporter.

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Levomilnacipran

CYP3A4 Metabolism
Use with caution when combined with medications that inhibit or induce CYP3A4, as they may alter levomilnacipran's metabolism and effectiveness.

Low Permeability of the Blood Brain Barrier
Based on the analysis of the patient's expression of the ABCB1 gene, with increased efflux from the brain. Higher doses of levomilnacipran are likely to be required, but that may result in peripheral side effects.

Moderate Response to Levomilnacipran
Based on the analysis of the patient's dopamine and norepinephrine levels, along with the expressions of serotonin auto receptor, serotonin transporter, and the norepinephrine transporter.

Nefazodone

CYP3A4 Metabolism
Use with caution when combined with medications that inhibit or induce CYP3A4, as they may alter nefazodone's metabolism and effectiveness.

Good Response to Nefazodone
Based on the analysis of the patient's dopamine/norepinephrine levels, the expressions of serotonin autoreceptor, serotonin transporter and the expressions of norepinephrine and dopamine transporters.

Venlafaxine (over 150 mg)

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Response to Venlafaxine
Based on the analysis of the patient's dopamine and norepinephrine levels, along with the expressions of serotonin auto receptor, serotonin transporter, and the norepinephrine transporter.

Venlafaxine (under 150 mg)

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Good Response to Venlafaxine
Based on the analysis of the patient's expressions of serotonin auto receptor, serotonin transporter, and the norepinephrine transporter.

Moderate Risk of Anhedonia, Numbness or Loss of Motivation
Based on the analysis of the patient's basal levels of dopamine and norepinephrine and the expression of serotonin 2C receptor. Dopaminergic or adrenergic adjunct medications may be necessary.

Serotonin Partial Agonist Reuptake Inhibitors (SPARI)

Buspirone + SSRIs

Poor Response for Buspirone + SSRIs
The use of Buspirone is not recommended for this patient.

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Vilazodone

CYP3A4 Metabolism
Use with caution when combined with medications that inhibit or induce CYP3A4, as they may alter vilazodone's metabolism and effectiveness.

Low Permeability of the Blood Brain Barrier
This patient's blood brain barrier (BBB) gene is highly active with increased drug efflux from the brain. Higher doses of Vilazodone are likely to be required for better bioavailability of the drug to its target brain receptor, but that may result in side effects.

Poor Response to Vilazodone
Based on the analysis of the patient's expression of serotonin auto receptor. Avoid if possible.

Vortioxetine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Poor Response to Vortioxetine
Based on the analysis of the patient's expressions of serotonin auto receptor and other target receptors of Vortioxetine. Avoid if possible.

Norepinephrine / Dopamine Reuptake Inhibitors (NDRI)

Bupropion

Favorable Suitability for Bupropion
Based on the analysis of the patient's basal levels of dopamine and norepinephrine. Titrate to therapeutic dosage.

CYP2B6 Normal Metabolizer
Normal metabolism of Bupropion into its more active compound Hydroxybupropion.

Likely Normal Dose Responder
Based on the analysis of the patient's expression of dopamine and norepinephrine transporters.

Norepinephrine Reuptake Inhibitors (NRI)

Atomoxetine

Favorable Suitability for Atomoxetine
Based on the analysis of the patient's basal levels of dopamine and norepinephrine. Titrate to therapeutic dosage.

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Likely High Dose Responder
Based on the analysis of the patient's expression of norepinephrine transporter.

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MAO-A Inhibitor

Moclobemide

Metabolism
Moclobemide treatment is not dependent upon the cytochrome P450 family.

Poor Response to Moclobemide
Based on the analysis of the patient's expressions of the monoamine oxidase A gene, the serotonin autoreceptor and the serotonin transporter. Avoid if possible.

Tricyclic Antidepressants

Amitriptyline, Clomipramine, Imipramine, Trimipramine, and Doxepin

CYP2D6/CYP2C19 Normal Metabolizer
Normal metabolic enzyme activity. Initiate therapy with recommended starting dose.

Response
No significant evidence is available on the mechanism of action of TCAs.

Desipramine

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Poor Responder to Desipramine
Based on the analysis of the patient's expressions of norepinephrine transporter, serotonin transporter and autoreceptor. Avoid if possible.

Nortriptyline

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Response to Nortriptyline
Based on the analysis of the patient's expressions of serotonin 2A receptor, serotonin transporter and autoreceptor, along with the norepinephrine transporter.

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Serotonin 2a Receptor Antagonist

Aripiprazole/Brexpiprazole (as HTR2A antagonist)

CYP2D6 Normal Metabolizer
If selected, initiate therapy with label recommended dose.

Moderate Response to Aripiprazole/Brexpiprazole
Based on the analysis of the patient's expression of serotonin 2A receptor, serotonin autoreceptor and dopamine D2 receptor.

Moderate Risk of Movement Disorder
Based on the analysis of the patient's expression of genetic variations associated with movement disorder. If movement disorder develops while on Aripiprazole/Brexpiprazole avoid if possible.

Mirtazapine

Good Response to Mirtazapine
Based on the analysis of the patient's expressions of serotonin 2A and 2C receptors and serotonin 3A receptor.

Risk of Weight Gain & Fatigue
Mirtazapine may lead to weight gain and/or fatigue, which are common side effects not attributed to genetics. If the patient cannot tolerate these effects, consider switching to trazodone.

Quetiapine as an HTR2A antagonist

CYP3A4 Metabolism
Use with caution when combined with medications that inhibit or induce CYP3A4, as they may alter quetiapine's metabolism and effectiveness.

Moderate Response to Quetiapine
Based on the analysis of the patient's expression of serotonin 2A receptor, serotonin autoreceptor and dopamine D2 receptor.

Trazodone

CYP3A4 Metabolism
Use with caution when combined with medications that inhibit or induce CYP3A4, as they may alter trazodone's metabolism and effectiveness.

Moderate Response to Trazodone
Based on the analysis of the patient's expressions of serotonin 2A and 2C receptors and the expressions of serotonin autoreceptor and transporter.

Problems with Memory & Concentration
Trazodone may cause problems with memory and concentration, which are common side effects unrelated to genetics. If the patient cannot tolerate these effects, consider mirtazapine as an alternative.

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Stimulants

Amphetamines

Moderate Suitability for Amphetamines
Based on the analysis of the patient's basal levels of dopamine and norepinephrine. Titrate to therapeutic dosage. Caution: amphetamines may result in heightened risk of anxiety and agitation. If amphetamine is used, the augmentation with an SSRI may reduce anxiety.

CYP2D6 Normal Metabolizer
Metabolic studies have indicated that CYP2D6 does not play a significant role in amphetamine drug concentration in the plasma.

Likely Moderately High Dose Responder
Based on the analysis of the patient's expressions of dopamine and norepinephrine transporters, and other receptor targets of amphetamine.

Moderate Risk of Sleep Disruption
Based on the analysis of the patient's expression of serotonin 2A and 2C receptors and the activity of the cortisol system.

High Risk of Drug Tolerance
Based on the analysis of the patient's expression of dopamine D2 and noradrenalin 2A receptors.

High Risk of Weight Loss
Based on the analysis of the patient's expression of serotonin 2C and melanocortin-4 receptors.

Methylphenidate

Moderate Suitability for Methylphenidate
Based on the analysis of the patient's low basal levels of dopamine and/or norepinephrine. Titrate to therapeutic dosage. Caution: methylphenidates may result in heightened risk of anxiety and agitation. If methylphenidate is used, the augmentation with an SSRI may reduce anxiety.

CES1 Normal Metabolizer
Normal CES1 enzyme activity. Use label recommended dosage and administration.

Likely Moderately High Dose Responder
Based on the analysis of the patient's expressions of dopamine and norepinephrine transporters, and other receptor targets of methylphenidate.

Moderate Risk of Drug Tolerance
Based on the analysis of the patient's expression of dopamine D2 and noradrenalin 2A receptors.

Moderate Risk of Sleep Disturbance
Based on the analysis of the patient's expression of serotonin 2A and 2C receptors and the activity of the cortisol system.

High Risk of Weight Loss
Based on the analysis of the patient's expression of serotonin 2C and melanocortin-4 receptors.

Adrenergic Receptor Agonists

Clonidine

Moderate Suitability for Clonidine
Based on the analysis of the patient's expression basal levels of dopamine and norepinephrine.

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Guanfacine

Moderate Suitability for Guanfacine
Based on the analysis of the patient's expression basal levels of dopamine and norepinephrine.

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Pharmacogenomics is a two-part process, pharmacokinetics and pharmacodynamices

Pharmacokinetic Rational:

Pharmacokinetics refers to how the body processes a drug, including its absorption, metabolism into its active form, circulation throughout the body, and most importantly, its clearance through the liver.

The patient's pharmacokinetic genetic variations below may help determine whether the drug reaches the appropriate concentration in the body and effectively targets the intended site to produce the desired response.

- **Metabolism**
  Level of evidence: Highest (CPIC, DPWG and FDA)

CYP2D6 Normal Metabolizer
This patient has no challenges breaking down or clearing medications metabolized by CYP2D6 from their blood and the medication is likely to reach normal bloodstream concentrations. The Clinical Pharmacogenetic Implementation Consortium (CPIC) recommends initiating these medications at their regular starting dose.

CYP2C19 Normal Metabolizer
This patient has no challenges breaking down or clearing medications metabolized by CYP2C19 from their blood and the medication is likely to reach normal bloodstream concentrations. The Clinical Pharmacogenetic Implementation Consortium (CPIC) recommends initiating these medications at their regular starting dose.

CYP2B6 Normal Metabolizer
This patient has no challenges breaking down or clearing medications metabolized by CYP2B6 from their blood and the medication is likely to reach normal bloodstream concentrations. The Clinical Pharmacogenetic Implementation Consortium (CPIC) recommends initiating these medications at their regular starting dose.

- **Blood Brain Barrier**
  Level of Evidence: Low (Published Literature)

Low Permeability
This is a protein efflux pump responsible for expelling foreign substances from the brain. It has a minor effect on most antidepressants except Vilazodone, Risperidone and Levomilnacipran. For these drugs, increasing the dose might help, but this might result in increased concentration of the drug in the blood, causing side effects.

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Pharmacodynamic Rational

Pharmacodynamics explains how a drug affects the body, focusing on its interaction with target genes. The drug's success is largely dependent on the compatibility of these gene expressions. When most target genes are compatible, the drug is likely to work effectively; however, if they are not, its effectiveness may be moderate or poor.

The patient has specific genetic variations that could significantly influence the effectiveness of their psychiatric medications. Additionally, unintended gene interactions or variations affecting receptors may result in adverse effects, potentially requiring the use of additional medications to optimize treatment outcomes.

A comprehensive list of genetic variations tested is available on the final page. For further details, the patient's full genetic profile can be downloaded at p3report.com.

SLC6A4 l/s - SL

The SLC6A4 gene encodes the serotonin transporter (SERT), the main target of SSRIs and SNRIs. These drugs block SERT in the brain, preventing serotonin reabsorption and increasing its availability to regulate mood. Your variant, L/S, indicates moderate expression and binding capacity of the SERT, suggesting a moderate response to SSRIs/SNRIs. Note: Many other genes also influence SSRI effectiveness.

HTR1A rs6295 - CC

The HTR1A receptor, also called the serotonin autoreceptor, regulates serotonin synthesis and release, often reducing serotonin levels. It also functions post-synaptically, contributing to inhibition and "passive coping." Your variant, CC, indicates normal expression of the autoreceptor, suggesting a positive response to SSRIs and a lower likelihood of treatment resistance, though other genes also influence resistance.

HTR2A rs7997012 - GA

The HTR2A gene (rs7997012) codes for a receptor involved in "active coping" during stress. Over-stimulation from chronic stress or antidepressants can heighten anxiety and brain inflammation. Your variant is GA, indicates normal expression of the receptor, and reduced likelihood to require adjunct medication with your antidepressant therapy.

HTR2C rs3813929 - CC

The HTR2C gene (rs3813929) codes for a serotonin receptor that regulates dopamine, norepinephrine, mood, anxiety, appetite, and sleep. Your variant, CC, indicates normal receptor expression, reducing the risk of over-stimulation, numbness, or reduced motivation.

COMT rs4680 - GA

The COMT gene (rs4680) codes for an enzyme that breaks down dopamine and norepinephrine (noradrenaline) in the pre-frontal cortex, which controls executive function and motivation. These neurotransmitters play a key role in antidepressant response. This variant, known as the "warrior" gene, raises dopamine and norepinephrine levels during stress to help cope with acute stressors like tight deadlines. Your variant, GA, indicates moderate breakdown of dopamine and norepinephrine, leading to moderate baseline levels. This may slightly increase the risk of anhedonia (lack of motivation) while on antidepressants. Other genes also influence dopamine and norepinephrine levels.

MAO-A rs1137070 - CC

The MAO-A gene (rs1137070) codes for an enzyme involved in breaking down serotonin, norepinephrine, and dopamine—key neurotransmitters for mood and executive function. Your variant, CC, indicates normal neurotransmitter metabolism, reducing the risk of treatment resistance in depression or anxiety.

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The Rx Report™ is aimed to provide genetic information to individuals and to their healthcare professionals that may help in selecting the appropriate medications for individuals struggling with mental illness medications. The report is based on patient assessment, including correct diagnosis, clinical history, relevant lifestyle factors, family history, co-morbidities, medications, and other factors. The Result Summary by a pharmacist is derived based on individual's genetic variations (SNPs) that are relevant to drug metabolism, transport, and target receptor binding for efficacy and side effects as per Personalized Prescribing Inc. (PPI) proprietary algorithm.

DISCLAIMER

The result summary is not intended to be diagnostic but to indicate drugs that are more likely to be effective for individuals. Any decision to prescribe or change medications should only be made by individual's treating physician based on their professional judgement and considering patients' medical history and other relevant information available in clinical literature, practice guidelines, FDA-approved drug labelling, indications, warnings, precautions etc.

The genes included in the report are based on the most recent literature available in public platforms such as FDA, Clinical Pharmacogenetic Implementation Consortium (CPIC), PharmGKB, and peer-reviewed medical literature. Any periodic updates on gene-drug interactions by PPI because of continuous changes in the availability of pharmacogenomic information, will be reflected in patients' genetic profiles, however, no updated Result Summary will be sent if not requested by patients or their physicians.

Discussion with PPI Pharmacist

Healthcare professionals/ psychiatrists/ physicians interested to discuss about PPI pharmacogenomics testing service, patient report interpretation etc. can contact PPI psychopharmacists. Please send an email to pharmacist@personalizedprescribing.com or call 647-943-0210 ext.1 to schedule an appointment with a psychopharmacist.

Test Methodology

The test was developed and validated in Personalized Prescribing Inc. (PPI) laboratory. PPI use in-house designed primers and assay reagents from Agena Bioscience, USA to perform the analysis. The test is used for clinical purpose, not for investigational use. Rx Report-Psychiatry & Pain test by PPI has not been approved by the U.S. Food and Drug Administration (FDA).

Variants Tested

CYP2D6 (*1, *2, *3, *4, *6, *7, *8, *9, *10, *14A, *17, *29, *41), CYP2C19 (*1, *2, *3, *4, *4B, *5, *6, *7, *8, *17), ABCB1 (rs2032583, rs2235015, rs1045642), NPY (rs16147), IL1B (rs16944), TNFα (rs1800629), IL-6 (rs1800795), IL-10 (rs1800896), CRHR1 (rs110402), FKBP5 (rs3800373, rs1360780, rs4713916), NR3C1 (rs10052957, rs41423247, rs6198), NR3C2 (rs5522), GAD1 (rs3791850), SLC1A2 (rs3812778), GABAa (rs211037), GRIK4 (rs11218030, rs1954787), GRIN1 (rs4880213), GRIN2B (rs1805247, rs1805502), GRIA1 (rs1994862), IDO (rs9657182), BDNF (rs6265), TPH1 (rs1800532), TPH2 (rs1487278, rs7963803, rs11178997, rs4570625), MAO-A (rs1465107, rs6323, rs1137070), HTR1A (rs6295, rs10042486), HTR1B (rs6296, rs9361233), HTR2A (rs6311, rs6313, rs6314, rs7997012), HTR2C (rs3813929, rs1414334), HTR3A (rs1062613), HTR3B (rs1176744), HTR7 (rs7905446), SLC6A4 (SS/SL/LL and rs255331), TH (rs10770141), DBH (rs1611115, rs2519152, rs1108580), MAO-B (rs1799836), COMT (rs4680), DRD2 (rs1076560, rs1799732, rs1799978, rs1800497), DRD1 (rs4532), DRD3 (rs6280), SLC6A2 (rs2242446), ADARA2A (rs1800544), GNB3 (rs5441, rs5443), CCK (rs1799923), CACNA1C (rs1006737), FAAH (rs324420), ADRB2 (rs1042713), ADM (rs11042725), MC4R (rs17782313, rs489693), MTHFR (rs1801131, rs1801133), ADRB1 (rs1801252, rs1801253), CHRNB2 (rs2072661), SERPINE1 (rs2227631), PDL1M5 (rs2433320), ACE (rs4291), SLC6A3 (rs2550948), SNAP25 (rs3746544), SLC6A2 (rs12708954, rs3785143), ADGRL3 (rs1355368, rs6813183)

PS: Other variants are not included in the test.

Limitation of Test Process

The test methodology has limitations. The quality and quantity of DNA extracted from patients are depended on saliva sample collection process, for example dietary or microbial influence which can impact the test process. PCR process can be influenced by exogenous enzymes or PCR inhibitors that may affect the assay result. SLC6A4 is a very delicate assay that is developed and validated and interpreted based on currently available scientific evidence. The result interpretation may vary if rs255331 is not considered in addition to Long (L) and Short (S) alleles. There are a couple of SNPs that have repeat bases, amplification of DNA samples can be deterred due to repeat bases. As the test does not include sequencing of whole genome, there could be undetected genetic variants that may influence the phenotype. Non-genetic factors such as drug-drug interactions that are unknown could also limit the interpretation of the test. Rx report- Psychiatry & Pain test report is based on available resources in scientific platforms like PharmGKB, FDA, DPWG and CPIC. PPI geneticists and pharmacists conduct in-house research to understand the clinical relevance of the variant identified, phenotypes, and recurrent risks.

References

There are references for our developed algorithms listed at our website: www.personalizedprescribing.com/references/