DEMO REPORT04

BIOGENIQ

Sample number		**Report date**	2019-06-17
Date of birth	1990-01-01	**Specimen**	Saliva
Sex	Male		
Pharma Profile(s)	ADHD		

Pharmacogenomic report

For more information, contact us:

Email: science@biogeniq.ca
Phone: 514 317-2240

The Pharma profile is a clinical decision support tool aimed at reducing the risks of adverse drugs reactions and therapeutic failure. The Pharma profile does not replace existing prescription guides. Response to medication can be influenced by factors not evaluated in this report. Response to treatment may be different than predicted in this report. The Pharma profile does not diagnose any disorder, condition or disease. Do not change your medication without prior approval from your treating clinician.

Alpha 2 - adrenergic agonist

Clonidine (CATAPRES®, DIXARIT®)

(!) **Guanfacine** (INTUNIV XR®)

Atypical Antipsychotic

(!) **Quetiapine** (SEROQUEL®)

Risperidone (RISPERDAL®)

Atypical antidepressant

(!) **Bupropion** (WELLBUTRIN®, ZYBAN®)

Noradrenaline reuptake inhibitor

Atomoxetine (STRATTERA®)

Psychostimulant

Amphetamine (ADDERALL XR®)

Dextroamphetamine (DEXEDRINE®)

Lisdexamfetamine (VYVANSE®)

⚠ **Methylphenidate** (CONCERTA®)

⚠ **Methylphenidate** (RITALIN®)

⚠ **Methylphenidate** (BIPHENTIN®)

⚠ **Methylphenidate** (FOQUEST®)

Legend: (!) Increased risk of adverse drug reactions ⚠ Increased risk of therapeutic failure

PHARMACOGENOMIC RECOMMENDATIONS

Amphetamine (ADDERALL XR®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **4**

No genetic variation identified that would prompt changes to ampetamine therapy

Your body should metabolize and eliminate amphetamine normally. Therefore, your genetic results do not suggest any change to amphetamine treatment.

- No change to the recommended dose.

Atomoxetine (STRATTERA®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **1**

No genetic variation identified that would prompt changes to atomoxetine therapy

Your body should metabolize and eliminate atomoxetine normally. Therefore, your genetic results do not suggest any change to atomoxetine therapy.

- No change to the recommended dose.

(!) **Bupropion** (WELLBUTRIN®, ZYBAN®) GENES: ***CYP2B6, POR*** LEVEL OF EVIDENCE: **3**

Increased risk of adverse drug reactions with standard dosing of bupropion

Your body may metabolize and eliminate bupropion at a slower rate than expected.

- Be alert to adverse drug reactions (e.g., dry mouth, constipation, dizziness, tremors, nausea).
- Consult your healthcare provider to optimize your therapy.

Clonidine (CATAPRES®, DIXARIT®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **4**

No genetic variation identified that would prompt changes to clonidine therapy

Your body should metabolize and eliminate clonidine normally. Therefore, your genetic results do not suggest any change to clonidine therapy.

- No change to the recommended dose.

Dextroamphetamine (DEXEDRINE®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **4**

No genetic variation identified that would prompt changes to dextroamphetamine therapy

Your body should metabolize and eliminate dextroamphetamine normally. Therefore, your genetic results do not suggest any change to dextroamphetamine treatment.

- No change to the recommended dose.

(!) **Guanfacine** (INTUNIV XR®) GENE: ***CYP3A4*** LEVEL OF EVIDENCE: **4**

Increased risk of adverse drug reactions with standard dosing of guanfacine

Your body may metabolize and eliminate guanfacine at a slower rate than expected.

- Be alert to adverse drug reactions (e.g., sleepiness, tiredness, headache, stomach ache)
- Consult your healthcare provider to optimize your therapy.

Legend: (!) Increased risk of adverse drug reactions ⚠ Increased risk of therapeutic failure

Lisdexamfetamine (VYVANSE®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **4**

No genetic variation identified that would prompt changes to lisdexamfetamine therapy

Your body should metabolize and eliminate lisdexamfetamine normally. Therefore, your genetic results do not suggest any change to lisdexamfetamine therapy.

- No change to the recommended dose.

⚠ **Methylphenidate** (CONCERTA®) GENES: ***CES1, LPHN3, TH*** LEVEL OF EVIDENCE: **3**

increased risk of nonresponse

The presence of mutations on the genes TH and LPHN3 is associated with an increased risk of nonresponse. This risk of nonresponse is exacerbated with prenatal smoking.

- Be alert to insufficient response.
- Consult your healthcare provider to optimize your therapy.

⚠ **Methylphenidate** (RITALIN®) GENES: ***CES1, LPHN3, TH*** LEVEL OF EVIDENCE: **3**

increased risk of nonresponse due to reduced effectiveness

The presence of mutations on the genes TH and LPHN3 is associated with an increased risk of nonresponse. This risk of nonresponse is exacerbated with prenatal smoking.

- Be alert for insufficient response.
- Consult your healthcare provider to optimize your therapy.

⚠ **Methylphenidate** (BIPHENTIN®) GENES: ***CES1, LPHN3, TH*** LEVEL OF EVIDENCE: **3**

Increased risk of nonresponse due to reduced effectiveness

The presence of mutations on the genes TH and LPHN3 is associated with an increased risk of nonresponse. This risk of nonresponse is exacerbated with prenatal smoking.

- Be alert for insufficient response.
- Consult your healthcare provider to optimize your therapy.

⚠ **Methylphenidate** (FOQUEST®) GENES: ***CES1, LPHN3, TH*** LEVEL OF EVIDENCE: **3**

increased risk of nonresponse

The presence of mutations on the gene TH is associated with an increased risk of nonresponse. This risk of nonresponse is exacerbated with prenatal smoking.

- Be alert to insufficient response.
- Consult your healthcare provider to optimize your therapy.

(!) **Quetiapine** (SEROQUEL®) GENE: ***CYP3A4*** LEVEL OF EVIDENCE: **4**

Increased risk of adverse drug reactions with standard dosing of quetiapine

Your body may metabolize and eliminate quetiapine at a slower rate than expected.

- Be alert to adverse drug reactions (e.g., nausea, headache, dizziness, drowsiness, tremors).
- Consult your healthcare provider to optimize your therapy.

Legend: (!) Increased risk of adverse drug reactions ⚠ Increased risk of therapeutic failure

Risperidone (RISPERDAL®) GENE: ***CYP2D6*** LEVEL OF EVIDENCE: **1**

No genetic variation identified that would prompt changes to risperidone therapy

Your body should metabolize and eliminate risperidone normally. Therefore, your genetic results do not suggest any change to risperidone therapy.

- No change to the recommended dose.

Legend: (!) Increased risk of adverse drug reactions ⚠ Increased risk of therapeutic failure

RESULTS

GENES	PHENOTYPES	GENOTYPES	TESTED ALLELES
CES1	Normal metabolizer	CC	rs71647871
CYP2B6	Poor metabolizer	*6/*6	*4, *6, *18
CYP2D6	Normal metabolizer	*1/*10	*2, *3, *4, *5, *6, *7, *8, *9, *10, *11, *12, *14, *15, *17, *19, *41, *69, CNV
CYP3A4	Poor metabolizer	*17/*17	*2, *17, *22
LPHN3	-	AA | AA | GG	rs6551665 | rs1947274 | rs6858066
POR	Normal metabolizer	GG	rs2868177
TH	-	CC	rs2070762

CES1: Carboxylesterase 1; CYP2B6: Cytochrome P450 2B6; CYP2D6: Cytochrome P450 2D6; CYP3A4: Cytochrome P450 3A4; LPHN3: Latrophilin 3; POR: Cytochrome P450 oxidoreductase; TH: Tyrosine Hydroxylase

Levels of evidence

1 - Recommendation based on pharmacogenetic information on the drug label approved by Health Canada and/or the US Food and Drug Administration (FDA). A level 1 will also be attributed if the recommendation originates from a clinical guideline published by the Clinical Pharmacogenetics Implementation Consortium (CPIC) or the Dutch Pharmacogenomics Working Group (DPWG).

2 - Recommendation based on the results of multiple studies showing a statistically significant effect of a genetic variant on drug response.

3 - Recommendation based on the results of a single study showing a statistically significant effect of a genetic variant on drug response and/or drug pharmacokinetics.

4 - Recommendation based only on knowledge of the principal metabolizing enzyme without in vivo or in vitro data demonstrating the impact that genetic variability has on drug response or pharmacokinetics.

Approved by: Jérome Maheux
PhD, Chemist 2016-081

Date: 2019-06-17