Why order a panel?

Pharmacogenetics is more than drug metabolism

BIOTAP BEACON

The BIOTAP Beacon™ Medication Sensitivity Panel

- Analyzes 17 genes known to influence the efficacy and safety of nearly 90% of all medications used today
- Identifies patients susceptible to adverse events
- Detects dangerous drug-drug interactions

Your patient may be a good candidate for a panel if he/she:

- Uses three or more medications (polypharmacy)
- Experiences chronic pain
- Is depressed and/or has treatment-resistant depression
- Has a history of heart attack or stent replacement
- Has been diagnosed with Bipolar Disorder
- Has experienced an adverse drug reaction or event

Comprehensive clinical results you need to design the best treatment plan for your patient. BIOTAP Beacon™ report:

- Includes an at-a-glance "snapshot" of your patient's genetic information
- Identifies and reconciles possible drug-gene conflicts
- Identifies known drug-drug interactions with the patient's current medications
- Incorporates a table suggesting your patient's drug-specific dosing strategies
- Provides interpretations based on the most current, consensus-based research
- Contains a list of common medications, and the genes that influence their efficacy and safety

BIOTAP Medical believes that anyone who needs pharmacogenetic testing should be able to receive it at an affordable price. BIOTAP's Financial Assistance Program offers both an extended payment schedule and reduction of charges for households who meet certain income guidelines.

Why choose our test?

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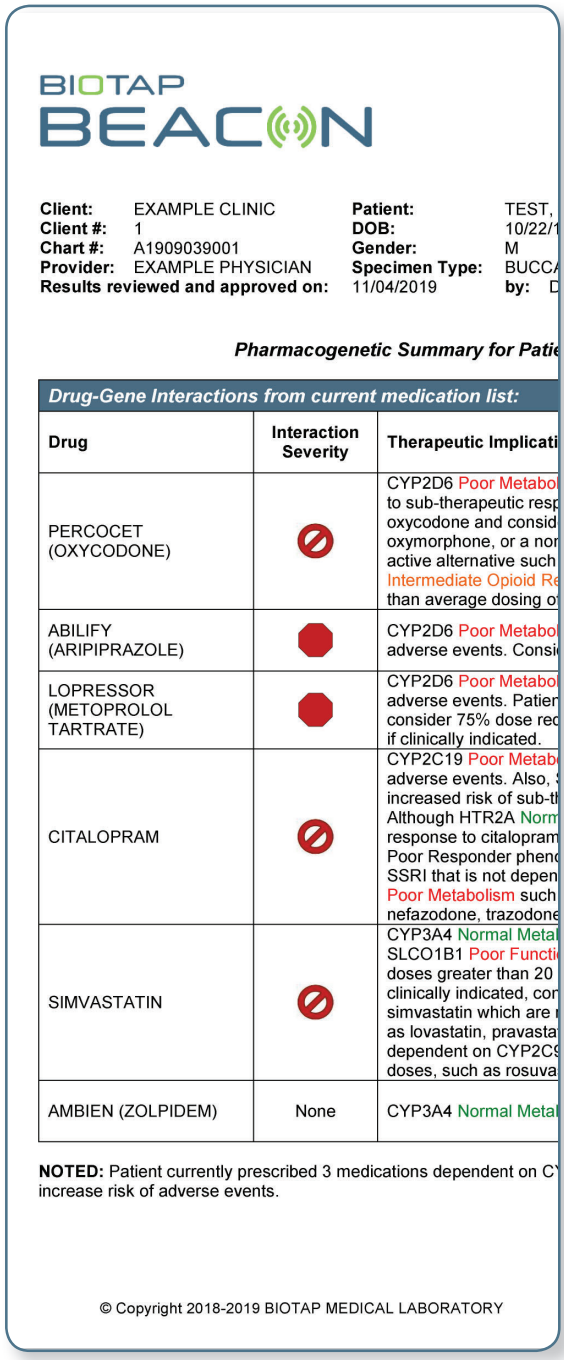
The BIOTAP Beacon™ Medication Sensitivity Panel was developed and is continuously updated by our pharmacists and clinical scientists who research the literature and science requisite for interpreting our test. In BIOTAP's high complexity lab, we only analyze those genes where an established correlation to a clinical endpoint or outcome exists.

Our panel analyzes the following genes:

- **CYP2D6** – metabolizes 25% of all drugs including tamoxifen, many antidepressants, antipsychotics, beta-blockers, and opioids
- **CYP2C9** – metabolizes approximately 10% of all drugs including warfarin, phenytoin, non-steroidal anti-inflammatory drugs (NSAIDs), and sulfonylureas
- **CYP2C19** – metabolizes approximately 10-15% of all drugs including clopidogrel, citalopram, diazepam, and proton pump inhibitors
- **CYP2B6** – metabolizes many medications including bupropion, methadone, and antiretrovirals.
- **CYP1A2** – metabolizes many medications including clozapine, olanzapine, theophylline, and caffeine
- **CYP3A4 / CYP3A5** – metabolize approximately 50% of medications including many statins, benzodiazepines, antibiotics, and antipsychotics
- **SLC6A4** – is a serotonin transporter; associated with efficacy of SSRI antidepressants
- **OPRM1** – is the Mu opioid receptor; associated with analgesic efficacy of morphine, hydromorphone, oxymorphone, and other opioid agonists
- **VKORC1** – is an enzyme inhibited by warfarin; associated with warfarin sensitivity and dose requirement
- **SLCO1B1** – is a protein that transports statins into the liver; associated with myopathy risk
- **Factor II** – is prothrombin; variant associated with increased risk of thrombosis
- **Factor V (Leiden)** – is clotting factor V; variant indicates nearly 10-fold increased thrombotic risk for males and females, and suggests avoidance of estrogen-based oral contraceptives for females
- **MTHFR** – is an enzyme involved in folate metabolism; variant is a risk factor for atherosclerotic heart disease, venous thrombosis, and low L-methylfolate levels
- **COMT** – is a brain enzyme that degrades dopamine and norepinephrine; associated with efficacy of stimulant therapies
- **ADRA2A** – is associated with methylphenidate response in patients with ADHD
- **HTR2A** – is the serotonin 2A receptor; associated with efficacy and side effect risk of antidepressants



BIOTAP BEACON

Client: EXAMPLE CLINIC
Client #: 1
Chart #: A1909039001
Provider: EXAMPLE PHYSICIAN
Results reviewed and approved on: 11/04/2019
Patient: TEST,
DOB: 10/22/1
Gender: M
Specimen Type: BUCC
by: D

Pharmacogenetic Summary for Patie

Drug-Gene Interactions from current medication list:

Drug	Interaction Severity	Therapeutic Implicati
PERCOCET (OXYCODONE)		CYP2D6 Poor Metabol to sub-therapeutic resp oxycodone and consid oxymorphone, or a nor active alternative such Intermediate Opioid Re than average dosing o
ABILIFY (ARIPIPRAZOLE)		CYP2D6 Poor Metabol adverse events. Consi
LOPRESSOR (METOPROLOL TARTRATE)		CYP2D6 Poor Metabol adverse events. Patien consider 75% dose rec if clinically indicated.
CITALOPRAM		CYP2C19 Poor Metab adverse events. Also, increased risk of sub-t Although HTR2A Norm response to citalopram Poor Responder phen SSRI that is not depen Poor Metabolism such nefazodone, trazodone
SIMVASTATIN		CYP3A4 Normal Meta SLCO1B1 Poor Functi doses greater than 20 clinically indicated, cor simvastatin which are as lovastatin, pravasta dependent on CYP2C9 doses, such as rosuva
AMBIEN (ZOLPIDEM)	None	CYP3A4 Normal Meta

NOTED: Patient currently prescribed 3 medications dependent on C increase risk of adverse events.