



# Inova VIP 360° MediMap® Plus

Your genes. Your roadmap.

Inova VIP 360° now offers MediMap® Plus - a clinician ordered, genetic test that helps you and your healthcare provider determine the right medication for you.

Done with a simple cheek swab, MediMap testing may help you and your healthcare provider:\*

- Reduce negative side effects.
- Discover the right drug, and the right dose, for you.
- Avoid trial-and-error prescribing.

*\*Talk to your healthcare provider or pharmacist about your results.*

## What type of medications will I learn about?

MediMap Plus analyzes 25 genes that influence response to 145 prescription medications. Medication categories include:

- Anesthesia
- Anticancer Agents
- Cardiovascular
- Diabetes
- Gastrointestinal
- Gaucher Disease
- Infections
- Neurology
- Pain
- Psychotropic
- Rheumatology
- Sjogren's Syndrome
- Transplantation
- Urologicals

## Is this test still valuable if I am already taking medications?

**Yes.** MediMap Plus may still be helpful if:

- Current medication(s) are not effective in reducing symptoms.
- You suffer from uncomfortable or harmful side-effects due to medication(s).
- You are diagnosed with a new condition that can be treated with a medication included in MediMap Plus.
- You need to change medications in the future.

## Will this test need to be repeated later?

**No.** MediMap Plus results last a lifetime because your genes do not change. You may ask for your results to be reinterpreted to take into account new medications or guidelines. In certain cases, a new sample may be required for additional testing.

## Are my results confidential?

Yes. Your results will be entered into Inova's secure electronic medical record and a copy of the report will be mailed to your home. You are responsible for sharing test results with your healthcare provider.

Your results will never be shared with your employer and are protected by federal law under the Genetic Information Nondiscrimination Act.

## MediMap Plus Report

Please talk with your healthcare provider or pharmacist about your results, which are categorized as follows:

### Summary of Results

#### Red category (STOP)

- Medications in this category may not work well or may cause unwanted side effects.
- If you are prescribed one of these medications, then a change in dose with close monitoring may be recommended.
- In some cases, a change in medication may be recommended.

#### Yellow category (USE CAUTION)

- These medications also may not work as well or cause unwanted side effects.
- If you are prescribed one of these medications, then a change in dose with close monitoring may be recommended.
- It is possible that a change in medication may not be needed.

#### Green category (GO)

- These medications are predicted to work as expected and may be prescribed as usual.
- Your report may include suggestions for other medications not based on genetics.

**Patient Information Card** -A portable summary of your MediMap report is included. It is your responsibility to share your report with current or new healthcare providers and pharmacists.

Do not make any medication changes without speaking to your healthcare provider.



**MediMap<sup>®</sup> Plus**  
Gene and Drug List

Category	Therapeutic Class	Generic Name	Trade Name(s)	Gene(s)	Evidence Level(s)
Anesthesia	Injectable Anesthetics	Propofol	Diprivan	CYP2B6	2
Cancer	Antifolates	Methotrexate	Trexall	MTHFR	2
	Protein Kinase Inhibitors	Gefitinib	Iressa	CYP2D6	1
	Thiopurines	Azathioprine	Imuran	TPMT	1
	Thiopurines	Mercaptopurine	Purinethol	TPMT	1
	Thiopurines	Thioguanine	Tabloid	TPMT	1
Cardiovascular	Angiotensin II Receptor Antagonists	Azilsartan	Edarbi	CYP2C9	1
	Angiotensin II Receptor Antagonists	Irbesartan	Avapro	CYP2C9	1
	Angiotensin II Receptor Antagonists	Losartan	Cozaar	CYP2C9	2
	Antianginal Agents	Ranolazine	Ranexa	CYP2D6	1
	Antiarrhythmics	Flecainide	Tambocor	CYP2D6	1
	Antiarrhythmics	Mexiletine	Mexitol	CYP2D6	1
	Antiarrhythmics	Propafenone	Rythmol	CYP2D6	1
	Anticoagulants	Warfarin	Coumadin	CYP2C9, VKORC1	1, 1
	Antiplatelets	Clopidogrel	Plavix	CYP2C19	1
	Antiplatelets	Prasugrel	Effient	CYP2C19	1
	Beta Blockers	Carvedilol	Coreg	CYP2D6	1
	Beta Blockers	Metoprolol	Lopressor	CYP2D6	1
	Beta Blockers	Nebivolol	Bystolic	CYP2D6	1
	Beta Blockers	Propranolol	Inderal	CYP2D6	1
	Beta Blockers	Timolol	Timoptic	CYP2D6	1
	Diuretics	Torsemide	Demadex	CYP2C9	2
	Statins	Atorvastatin	Lipitor	CYP3A4, SLCO1B1	2, 2
	Statins	Fluvastatin	Lescol	CYP2C9, SLCO1B1, ABCG2	2, 2, 2
	Statins	Lovastatin	Mevacor	CYP3A4, SLCO1B1	2, 2
	Statins	Pitavastatin	Livalo	SLCO1B1	2
Statins	Pravastatin	Pravachol	SLCO1B1	2	
Statins	Rosuvastatin	Crestor	SLCO1B1, ABCG2	2, 2	
Statins	Simvastatin	Zocor	SLCO1B1, CYP3A4	1, 2	
Diabetes	Meglitinides	Nateglinide	Starlix	CYP2C9, SLCO1B1	2, 2
	Meglitinides	Repaglinide	Prandin	CYP2C8, SLCO1B1	2, 2
	Sulfonylureas	Chlorpropamide	Diabinese	CYP2C9	2
	Sulfonylureas	Glimepiride	Amaryl	CYP2C9	2
	Sulfonylureas	Glipizide	Glucotrol	CYP2C9	2
	Sulfonylureas	Glyburide	Micronase	CYP2C9	2
	Sulfonylureas	Tolbutamide	Orinase	CYP2C9	2
	Thiazolidinediones	Pioglitazone	Actos	CYP2C8	2
	Thiazolidinediones	Rosiglitazone	Avandia	CYP2C8	2

Category	Therapeutic Class	Generic Name	Trade Name(s)	Gene(s)	Evidence
					Level(s)
Gastrointestinal	Antiemetics	Dolasetron	Anzemet	CYP2D6	2
	Antiemetics	Dronabinol	Marinol	CYP2C9	2
	Antiemetics	Metoclopramide	Reglan	CYP2D6	2
	Antiemetics	Netupitant-Palonosetron	Akynzeo	CYP2D6	2
	Antiemetics	Ondansetron	Zofran	CYP2D6	1
	Antiemetics	Palonosetron	Aloxi	CYP2D6	2
	Proton Pump Inhibitors	Dexlansoprazole	Dexilant	CYP2C19	1
	Proton Pump Inhibitors	Esomeprazole	Nexium	CYP2C19	1
	Proton Pump Inhibitors	Lansoprazole	Prevacid	CYP2C19	1
	Proton Pump Inhibitors	Omeprazole	Prilosec	CYP2C19	1
	Proton Pump Inhibitors	Pantoprazole	Protonix	CYP2C19	1
Proton Pump Inhibitors	Rabeprazole	Aciphex	CYP2C19	1	
Gaucher's Disease	Endocrine-Metabolic Agents	Eliglustat	Cerdelga	CYP2D6	1
Infectious Diseases	Antifungals	Voriconazole	Vfend	CYP2C19	1
	Anti-HIV Agents	Abacavir	Ziagen, Epzicom, Trizivir, Triumeq	HLA-B	1
	Antimalarial	Proguanil	Paludrine	CYP2C19	2
Neurology	Anticonvulsants	Brivaracetam	Briviact	CYP2C19	1
	Anticonvulsants	Lacosamide	Vimpat	CYP2C19	2
	Anticonvulsants	Phenobarbital	Luminal	CYP2C19	2
	Anticonvulsants	Primidone	Mysoline	CYP2C19	2
	Anticonvulsants	Zonisamide	Zonegran	CYP2C19	2
	Anticonvulsants	Fosphenytoin	Cerebyx	CYP2C9, HLA-B	1, 1
	Anticonvulsants	Phenytoin	Dilantin	CYP2C9, HLA-B	1, 1
	Anticonvulsants	Carbamazepine	Tegretol, Carbatrol	HLA-B, HLA-A	1, 1
Pain	Muscle Relaxants	Carisoprodol	Soma	CYP2C19	2
	Muscle Relaxants	Tizanidine	Zanaflex	CYP1A2	2
	NSAIDs	Celecoxib	Celebrex	CYP2C9	1
	NSAIDs	Diclofenac	Voltaren	CYP2C9	2
	NSAIDs	Flurbiprofen	Ansaid	CYP2C9	2
	NSAIDs	Ibuprofen	Motrin	CYP2C9	2
	NSAIDs	Indomethacin	Indocin	CYP2C9	2
	NSAIDs	Meloxicam	Mobic	CYP2C9	2
	NSAIDs	Piroxicam	Feldene	CYP2C9	2
	Opioids	Codeine	Codeine; Fioricet with Codeine	CYP2D6	1
	Opioids	Dihydrocodeine	Synalgos-DC	CYP2D6	2
	Opioids	Fentanyl	Actiq	OPRM1	2
	Opioids	Hydrocodone	Vicodin	CYP2D6, OPRM1	1, 2
	Opioids	Methadone	Dolophine	CYP2B6, OPRD1	2, 2

Category	Therapeutic Class	Generic Name	Trade Name(s)	Gene(s)	Evidence Level(s)
Pain (continued)	Opioids	Morphine	MS Contin	OPRM1, COMT	2, 2
	Opioids	Oxycodone	Percocet	CYP2D6	1
	Opioids	Tramadol	Ultram	CYP2D6	1
Psychiatry and Addictive Medicine	Antiaddictives	Bupropion	Wellbutrin, Zyban, Aplenzin	ANKK1, CYP2B6	2, 2
	Antiaddictives	Disulfiram	Antabuse	DBH	2
	Antiaddictives	Naltrexone	Vivitrol	OPRM1	2
	Anti-ADHD Agents	Amphetamine	Adderall	COMT	2
	Anti-ADHD Agents	Atomoxetine	Strattera	CYP2D6	1
	Anti-ADHD Agents	Clonidine	Kapvay	CYP2D6	2
	Anti-ADHD Agents	Dexmethylphenidate	Focalin	COMT	2
	Anti-ADHD Agents	Dextroamphetamine	Dexedrine	COMT	2
	Anti-ADHD Agents	Lisdexamfetamine	Vyvanse	COMT	2
	Anti-ADHD Agents	Methylphenidate	Ritalin, Concerta, Aptensio XR, Concerta, Metadate ER, Quillivant ER	COMT, ADRA2A	2, 2
	Antidementia Agents	Donepezil	Aricept	CYP2D6	2
	Antidementia Agents	Galantamine	Razadyne	CYP2D6	1
	Antidepressants	Amitriptyline	Elavil	CYP2D6, CYP2C19	1, 1
	Antidepressants	Amoxapine	Amoxapine	CYP2D6	2
	Antidepressants	Citalopram	Celexa	CYP2C19, GRIK4, SLC6A4, HTR2A, FKBP5	1, 2, 2, 2, 2
	Antidepressants	Clomipramine	Anafranil	CYP2D6, CYP2C19	1, 1
	Antidepressants	Desipramine	Norpramin	CYP2D6	1
	Antidepressants	Desvenlafaxine	Pristiq	CYP2D6	2
	Antidepressants	Doxepin	Silenor	CYP2D6, CYP2C19	1, 1
	Antidepressants	Duloxetine	Cymbalta	CYP2D6	1
	Antidepressants	Escitalopram	Lexapro	CYP2C19, SLC6A4	1, 2
	Antidepressants	Fluoxetine	Prozac, Sarafem	CYP2D6	1
	Antidepressants	Fluvoxamine	Luvox	CYP2D6, SLC6A4	1, 2
	Antidepressants	Imipramine	Tofranil	CYP2D6, CYP2C19	1, 1
	Antidepressants	Maprotiline	Ludiomil	CYP2D6	2
	Antidepressants	Mirtazapine	Remeron	CYP2D6	1
	Antidepressants	Nefazodone	Serzone	CYP2D6	2
	Antidepressants	Nortriptyline	Pamelor	CYP2D6	1
	Antidepressants	Paroxetine	Paxil, Brisdelle	CYP2D6	1
	Antidepressants	Protriptyline	Vivactil	CYP2D6	2
	Antidepressants	Sertraline	Zoloft	CYP2C19	1
	Antidepressants	Trimipramine	Surmontil	CYP2D6, CYP2C19	1, 1

Category	Therapeutic Class	Generic Name	Trade Name(s)	Gene(s)	Evidence Level (s)
Psychiatry and Addiction Medicine	Antidepressants	Venlafaxine	Effexor	CYP2D6	1
	Antidepressants	Vortioxetine	Trintellix	CYP2D6	1
	Antiparkinson agent used as Antiaddictive	Levodopa-Carbidopa	Sinemet	DBH	2
	Antipsychotics	Aripiprazole	Abilify, Aristada	CYP2D6	1
	Antipsychotics	Brexpiprazole	Rexulti	CYP2D6	1
	Antipsychotics	Chlorpromazine	Thorazine	CYP2D6	2
	Antipsychotics	Clozapine	Clozaril	CYP2D6, CYP1A2, HTR2A, HTR2C	1, 2, 2, 2
	Antipsychotics	Fluphenazine	Prolixin	CYP2D6	2
	Antipsychotics	Haloperidol	Haldol	CYP2D6	1
	Antipsychotics	lloperidone	Fanapt	CYP2D6	1
	Antipsychotics	Olanzapine	Zyprexa	CYP2D6, CYP1A2, HTR2C	1, 2, 2
	Antipsychotics	Paliperidone	Invega	CYP2D6	2
	Antipsychotics	Perphenazine	Trilafon	CYP2D6	2
	Antipsychotics	Pimozide	Orap	CYP2D6	1
	Antipsychotics	Risperidone	Risperdal	CYP2D6, HTR2C, DRD2	2, 2, 2
	Antipsychotics	Tetrabenazine	Xenazine	CYP2D6	1
	Antipsychotics	Thioridazine	Mellaril	CYP2D6	1
	Benzodiazepines	Clobazam	Onfi	CYP2C19	1
	Benzodiazepines	Diazepam	Valium	CYP2C19	2
	Benzodiazepines	Lorazepam	Ativan	UGT2B15	2
Benzodiazepines	Oxazepam	Serax	UGT2B15	2	
Other Neurological Agents	Dextromethorphan-Quinidine	Nuedexta	CYP2D6	1	
Other Neurological Agents	Flibanserin	Addyi	CYP2C19	1	
Rheumatology	Antihyperuricemics and Anti-Gout Agents	Allopurinol	Ziloprim	ABCG2, HLA-B	2, 1
	Antihyperuricemics and Anti-Gout Agents	Lesinurad	Zurampic	CYP2C9	1
	Immunomodulators	Leflunomide	Arava	CYP2C19	2
	Immunomodulators	Tofacitinib	Xeljanz	CYP2C19	1
Sjogren's Syndrome	Cholinergic Agonists	Cevimeline	Evoxac	CYP2D6	1
Transplantation	Immunosuppressant	Tacrolimus	Prograf	CYP3A5	1
Urologicals	Alpha-Blockers	Tamsulosin	Flomax	CYP2D6	1
	Antispasmodics	Darifenacin	Enablex	CYP2D6	1
	Antispasmodics	Fesoterodine	Toviaz	CYP2D6	1
	Antispasmodics	Mirabegron	Myrbetriq	CYP2D6	1
	Antispasmodics	Tolterodine	Detrol	CYP2D6	1

Inova Genomics Laboratory (IGL) is a CAP-accredited and CLIA-certified clinical genomics laboratory providing in-house testing and personalized patient care to the Washington, DC region.

IGL offers testing for a wide range of applications including pediatrics, cardiology, oncology, neurology and more.

IGL is part of the Inova Translational Medicine Institute – a research and development organization at the forefront of applied genomics. Our science and technology improves and personalizes patient care while helping people live longer, healthier lives.

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