NutriPATH
Integrative Pathology Services
P: 1300 688 522
E: info@nutripath.com.au
A: PO Box 442 Ashburton VIC 3142

TEST PATIENT
Sample Test Name
Sex : F
Date Collected : 00-00-0000
111 TEST ROAD TEST SUBURB
LAB ID: 00000000 UR#:0000000

TEST PHYSICIAN
DR JOHN DOE
111 CLINIC STREET
CLINIC SUBURB VIC 3000

Pharmacogenetics ✓

CARISOPRODOL

- ULTRARAPID METABOLIZER
- EXTENSIVE METABOLIZER
- INTERMEDIATE METABOLIZER
- POOR METABOLIZER

Gene Tested - CYP2C19

Description

TYPICAL PLASMA CONCENTRATIONS OF CAROSIPRODOL

This patient's genotype is associated with normal CYP2C19 enzyme activity and typical plasma concentrations of carisoprodol at standard doses. Oral contraceptives containing ethinylestradiol, desogestrel, gestodene or 3-ketodesogestrel inhibit the CYP2C19 enzyme, and caution should be exercised when prescribing carisoprodol to patients taking oral contraceptives.

Pharmacogenetics ✓

CELECOXIB

- EXTENSIVE METABOLIZER
- INTERMEDIATE METABOLIZER
- POOR METABOLIZER

Gene Tested - CYP2C9

Description

SUBSTANTIALLY INCREASED RISK OF ADVERSE EFFECT

This patient may have substantially increased risk of gastrointestinal bleeding at standard doses of celecoxib. Consider reducing dosage by 50%.

Pharmacogenetics ✓

CODEINE

- ULTRARAPID METABOLIZER
- EXTENSIVE METABOLIZER
- INTERMEDIATE METABOLIZER
- POOR METABOLIZER

Gene Tested - CYP2D6

Description

STANDARD DOSING

This patient's genotype is associated with normal CYP2D6 enzyme activity, typical systemic exposure to codeine's active metabolite, morphine, and a typical response to standard doses of codeine. Exercise caution when codeine is administered to a breastfeeding mother, and inform her about the risk for opioid overdose. Only use the lowest effective dose, and carefully monitor the mother-infant pair for signs of opioid toxicity.

Pharmacogenetics

DICLOFENAC

EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2C9

Description

REDUCED METABOLISM OF DICLOFENAC

The patient's genotype is associated with reduced metabolism of diclofenac compared to CYP2C9 extensive metabolizers. Concurrent use of diclofenac with CYP2C9 inhibitors is likely to result in an increased toxicity of diclofenac; thus, the daily dose of diclofenac is recommended to not exceed the lowest dose (50mg twice daily).

Pharmacogenetics

FENTANYL

DECREASED EFFICACY
TYPICAL EFFICACY
INCONCLUSIVE

Gene Tested - OPRM1

Description

TYPICAL EFFICACY

This patient’s genotype is associated with typical analgesic effect. This result is based on studies of Japanese or Han Chinese patients treated with fentanyl after abdominal or orofacial surgery and may or may not apply to patients of other ethnic groups or patients being treated for other conditions.

Pharmacogenetics

FLURBIPROFEN

EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2C9

Description

INCREASED PLASMA CONCENTRATIONS OF FLURBIPROFEN

This patient's genotype is associated with decreased CYP2C9 enzyme activity and is likely to cause higher plasma concentrations of flurbiprofen due to reduced metabolic clearance.

Pharmacogenetics

HYDROCODONE

ULTRARAPID METABOLIZER
EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2D6

Description

TYPICAL PLASMA CONCENTRATIONS OF HYDROMORPHONE

This patient’s genotype is associated with normal CYP2D6 enzyme activity and typical plasma concentrations of hydromorphone, an active metabolite of hydrocodone, in response to standard doses of hydrocodone.

Pharmacogenetics ✓

IBUPROFEN

EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2C9

Description

POSSIBLE DECREASED IBUPROFEN CLEARANCE

This patient's genotype is associated with decreased CYP2C9 enzyme activity and is likely to cause decreased ibuprofen clearance and higher blood levels of ibuprofen.

Pharmacogenetics ✓

MELOXICAM

EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2C9

Description

LOWER ORAL CLEARANCE OF MELOXICAM

This patient's genotype is associated with decreased CYP2C9 enzyme activity and is likely to cause slower clearance of oral meloxicam compared to CYP2C9 extensive metabolizers.

Pharmacogenetics ✓

METHADONE

EXTENSIVE METABOLIZER
INTERMEDIATE METABOLIZER
POOR METABOLIZER

Gene Tested - CYP2B6

Description

TYPICAL RISK OF CARDIOTOXICITY

This patient's genotype is associated with normal CYP2B6 enzyme activity and normal plasma levels of (S)-methadone. The patient may be advised to avoid CYP3A4 inhibitors and drugs that prolong QT.

Pharmacogenetics ✓

METHOTREXATE TOXICITY

INCREASED RISK
TYPICAL RISK

Gene Tested - MTHFR

Description

INCREASED RISK OF TOXICITY

This patient has the C677T variant in the MTHFR gene and, therefore, has increased risk of methotrexate toxicity, which may manifest as liver toxicity, myelosuppression, oral mucositis, gastrointestinal toxicity or skin toxicity. Other treatment options may be appropriate. Important: other health risks are associated with carrying the C677T variant in the MTHFR gene.

Pharmacogenetics ✓

OXYCODONE

Gene Tested - CYP2D6

Description

TYPICAL ANALGESIC EFFECT

This patient's genotype is associated with a typical response to standard doses of oxycodone. The patient's genotype is also associated with normal CYP2D6 enzyme activity and normal systemic exposure to oxymorphone, an active metabolite of oxycodone.

- ULTRARAPID METABOLIZER
- EXTENSIVE METABOLIZER
- INTERMEDIATE METABOLIZER
- POOR METABOLIZER

Pharmacogenetics ✓

TRAMADOL

Gene Tested - CYP2D6

Description

TYPICAL ANALGESIC EFFECT

This patient's genotype is associated with a typical response to standard doses of tramadol. The patient's genotype is also associated with normal CYP2D6 enzyme activity and typical systemic exposure to (+) -O-desmethyltramadol, an active metabolite of tramadol.

- ULTRARAPID METABOLIZER
- EXTENSIVE METABOLIZER
- INTERMEDIATE METABOLIZER
- POOR METABOLIZER

GENOTYPE/HAPLOTYPE DETAIL

PHARMACOGENETICS

This section lists the genetic markers that were tested for Pharmacogenetics. Results are organized by drug response. Each drug response may have two sections, which includes a "Genetic Result" section and an associated table with three columns. "Genetic Result" indicates the haplotype, genotype or presence of a mutation. A genetic result that contains “ND” indicates that a haplotype could not be determined. “Unable To Report” indicates that no result can be provided.

In the tables, results are organized by drug response into three columns:

1. “Gene/Locus” refers to the gene or intergenic region where the marker is located.
2. “Marker” refers to the unique identifier of the tested marker.
3. “Genotype” refers to the combination of nucleotides at a particular marker. The letter(s) on each side of the slash refer(s) to the two copies of the patient’s DNA. "Del" indicates a deletion of the nucleotide(s) in the patient's DNA. A genotype of “- -“ indicates that a result could not be obtained.

CARISOPRODOL

Genetic Result: CYP2C19 *1/*1

GENE/LOCUS	MARKER	GENOTYPE
CYP2C19	rs4244285	G/G
CYP2C19	rs4986893	G/G
CYP2C19	rs12248560	C/C
CYP2C19	rs28399504	A/A
CYP2C19	rs41291556	T/T
CYP2C19	rs56337013	C/C
CYP2C19	rs72552267	G/G
CYP2C19	rs72558186	T/T

CELECOXIB

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1057910	A/C
CYP2C9	rs1799853	C/T
CYP2C9	rs9332131	A/A

CODEINE

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs16947	T/T
CYP2D6	rs769258	G/G
CYP2D6	rs1065852	C/C
CYP2D6	rs1080985	C/G
CYP2D6	rs3892097	G/G
CYP2D6	rs5030655	T/T
CYP2D6	rs5030656	AAG/AAG
CYP2D6	rs5030862	G/G
CYP2D6	rs5030863	C/C

CODEINE

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs5030865	C/C
CYP2D6	rs5030867	A/A
CYP2D6	rs28371706	C/C
CYP2D6	rs28371725	G/A
CYP2D6	rs35742686	A/A
CYP2D6	rs59421388	C/C
CYP2D6	rs72549357	T/T

DICLOFENAC

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1057910	A/C
CYP2C9	rs1799853	C/T
CYP2C9	rs9332131	A/A

FENTANYL

GENE/LOCUS	MARKER	GENOTYPE
OPRM1	rs1799971	A/A

FLURBIPROFEN

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1057910	A/C
CYP2C9	rs1799853	C/T
CYP2C9	rs9332131	A/A

HYDROCODONE

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs16947	T/T
CYP2D6	rs769258	G/G
CYP2D6	rs1065852	C/C
CYP2D6	rs1080985	C/G
CYP2D6	rs3892097	G/G
CYP2D6	rs5030655	T/T
CYP2D6	rs5030656	AAG/AAG
CYP2D6	rs5030862	G/G
CYP2D6	rs5030863	C/C
CYP2D6	rs5030865	C/C
CYP2D6	rs5030867	A/A
CYP2D6	rs28371706	C/C
CYP2D6	rs28371725	G/A
CYP2D6	rs35742686	A/A
CYP2D6	rs59421388	C/C
CYP2D6	rs72549357	T/T

IBUPROFEN

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1057910	A/C
CYP2C9	rs1799853	C/T
CYP2C9	rs9332131	A/A

MELOXICAM

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1057910	A/C

MELOXICAM

Genetic Result: CYP2C9 *2/*3

GENE/LOCUS	MARKER	GENOTYPE
CYP2C9	rs1799853	C/T
CYP2C9	rs9332131	A/A

METHADONE

Genetic Result: CYP2B6 *1/*1

GENE/LOCUS	MARKER	GENOTYPE
CYP2B6	rs2279343	A/A
CYP2B6	rs3211371	C/C
CYP2B6	rs3745274	G/G
CYP2B6	rs8192709	C/C
CYP2B6	rs28399499	A/A

METHOTREXATE TOXICITY

GENE/LOCUS	MARKER	GENOTYPE
MTHFR	rs1801133	T/C

OXYCODONE

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs16947	T/T
CYP2D6	rs769258	G/G
CYP2D6	rs1065852	C/C
CYP2D6	rs1080985	C/G
CYP2D6	rs3892097	G/G
CYP2D6	rs5030655	T/T
CYP2D6	rs5030656	AAG/AAG
CYP2D6	rs5030862	G/G
CYP2D6	rs5030863	C/C
CYP2D6	rs5030865	C/C
CYP2D6	rs5030867	A/A
CYP2D6	rs28371706	C/C
CYP2D6	rs28371725	G/A
CYP2D6	rs35742686	A/A
CYP2D6	rs59421388	C/C
CYP2D6	rs72549357	T/T

TRAMADOL

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs16947	T/T
CYP2D6	rs769258	G/G
CYP2D6	rs1065852	C/C

TRAMADOL

Genetic Result: CYP2D6 *2/*41

GENE/LOCUS	MARKER	GENOTYPE
CYP2D6	rs1080985	C/G
CYP2D6	rs3892097	G/G
CYP2D6	rs5030655	T/T
CYP2D6	rs5030656	AAG/AAG
CYP2D6	rs5030862	G/G
CYP2D6	rs5030863	C/C
CYP2D6	rs5030865	C/C
CYP2D6	rs5030867	A/A
CYP2D6	rs28371706	C/C
CYP2D6	rs28371725	G/A
CYP2D6	rs35742686	A/A
CYP2D6	rs59421388	C/C
CYP2D6	rs72549357	T/T