

Laboratory Test Report

Patient Name: Last, First		Patien	t ID:	Age: 28	Sex at Birth: Female	DOB: 02/13/1996				
	Date Collected: 03/04/2024	Date Received: 03/05/2024	Ordering Physician: TEST PHYSICIAN		Castle	ID:				
Test Ordered: NeuroIDgenetix 902		Indicat Neu	^{ion:} rolDgenetix		Report Date: 03/07/2024	Report Status: SAMPLE				
	PHARMAC		IC TESTING B	ASED TF	REATMEN	T GUIDANCE				
			rug Therapy Se							
Use	e as Directed		<u> </u>		e With Caution and/or Increased Monitoring					
	Drug		Drug			Dosing				
desvenlafaxine (S		ar	nitriptyline	Avoid use if	clinically possible.	Per CPIC guideline, avoid amitriptyline use PubMedID: 27997040				
levomilnacipran (S		[=				Per CPIC guideline, avoid tricyclic use due				
mirtazapine (NaSS trazodone (SARI) vilazodone (SRI)	A)	de	esipramine	to potential for side effects (CYP2D6 PM). Consider alternative drug not metabolized by CYP2D6. If a TCA is warranted, consider a 50% reduction of recommended starting dose. Utilize therapeutic drug monitoring to guide dose adjustments. PubMedID: 27997040						
quetiapine (SGA)		do	oxepin	Avoid use if (clinically possible.	Per CPIC guideline, avoid doxepin use PubMedID: 27997040				
		im	nipramine	Avoid use if a	clinically possible.	Per CPIC guideline, avoid imipramine use				
		no	Internative (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040 Avoid use if clinically possible. Per CPIC guideline, avoid to potential for side effects (CYP2D6 PM). Consider all metabolized by CYP2D6. If a TCA is warranted, conside of recommended starting dose. Utilize therapeutic drug guide dose adjustments. PubMedID: 27997040							
		flu	uvoxamine	ore predictable response. Identification of ncing metabolism or response confounds 2D6,HTTLPR].						
		flu	uoxetine	ore predictable response. SLC6A4 ciated with decreased efficacy of SSRIs 2D6 PM) with incompletely characterized n.						
			aroxetine	ore predictable response. Identification of ncing metabolism or response confounds 2D6,HTTLPR].						
		se	ertraline	ore predictable response. Identification of ncing metabolism or response confounds 2C19,HTTLPR].						
		ve	enlafaxine	ore predictable response. Per CPIC sider a clinically appropriate alternative ntly metabolized by CYP2D6. PubMedID:						
		ci	talopram	37032427 Consider dose adjustment or alternate drug. Per CPIC guideline, if pa does not adequately respond to recommended maintenance dosing, consider titrating to a higher maintenance dose or switching to a clinic appropriate alternative antidepressant not predominantly metabolized CYP2C19. Increased metabolism and lower plasma concentrations decrease the probability of clinical benefit (CYP2C19 RM), an effect compounded by the presence of the SLC6A4 HTTLPR S/S genotype associated with decreased efficacy of SSRIs. PubMedID: 37032427						
		►	⊳escitalopram	does not ade consider titra appropriate a CYP2C19. Ir decrease the compounded	equately respond to ting to a higher ma alternative antidep preased metaboli probability of clin by the presence of	Iternate drug. Per CPIC guideline, if patient o recommended maintenance dosing, aintenance dose or switching to a clinically ressant not predominantly metabolized by sm and lower plasma concentrations ical benefit (CYP2C19 RM), an effect of the SLC6A4 HTTLPR S/S genotype cacy of SSRIs. PubMedID: 37032427				
		vc	ortioxetine	Iternate drug. Per CPIC guideline for arting dose (e.g., 5mg) and titrate to the of 10mg or consider a clinically appropriate predominantly metabolized by CYP2D6.						
			► aripiprazole	poor metabo usual dose a CYP2D6 PM	lizers dose should ind then adjusted t patients who are	Iternate drug. Use with caution: in CYP2D6 initially be reduced to one-half (50%) of the to achieve favorable response. The dose in administered a strong CYP3A4 inhibitor ter (25%) of the usual dose. (Drug Label)				
Laboratory Director:		Report App	rover:	Report	Approval Date:	*** Electronic Signature On file ***				

Laboratory Director: CLIA# 03D2096304

Castle Biosciences, 3737 N 7th St. Suite 160 Phoenix, AZ 85014, 1-866-788-9007, support@castlebiosciences.com



Laboratory Test Report

Patient Name: Last, First		Pa	atient ID:			Age: 28	Sex at Birth: Female			DOB: 02/13/1996
Sample Type: Buccal Swab	Date Collected: 03/04/2024	Date Received: 03/05/2024		Ordering Physician: TEST PHYSICIAN				Castle ID:		
Test Ordered: NeurolDgenetix	902		dication: VeuroIDo	jenetix			Report Date: 03/07/202	24	Report Statu SAMPLE	
	DHARMA	COGEN	ETIC	TESTING E	RASE		ΕΔΤΜ	ENT	GUID	
		pression	Drug	g Therapy S					<u> </u>	
	Use as Directed		Use With Caution and/or Increased Monitoring Drug Dosing							9
	Drug		brexpi	brexpiprazole Consider dose adjustment or alternate drug. Use v poor metabolizers dose should initially be reduced usual dose and then adjusted to achieve favorable CYP2D6 PM patients who are administered a stro inhibitor should be reduced to one-quarter (25%) of Label)						uced to one-half (50%) of the prable response. The dose in a strong/moderate CYP3A4
			duloxe				olic interacti			
			bupro				olic interacti			
	PHARMA	COGEN	ETIC	TESTING E	BASE	D TR	EATM	ENT	GUID	ANCE
	Bipola	ar Disord	er Di	rug Therapy	Sele	ction	& Dosi	ng Gu	uidanc	e
	Use as Directed				Use Wit	h Cautior	n and/or Ind	creased I	Monitoring	9
	Drug			Drug				D	osing	
quetiapine (SG cariprazine (SG lurasidone (SG	GA)		clozap	ine	note meta	d that CY abolism, th	P2D6 has a	relatively I notes it	minor cor may be ne	While several studies have htribution to clozapine ecessary to reduce dose in
paliperidone (S ziprasidone (S valproate (Anti lithium (Mood S	GA) convulsant)		vortio	tetine	CYP maxi alter	2D6 PM, mum reco	initiate 50% ommended idepressant	of startin dose of 1	ig dose (e. Omg or coi	Per CPIC guideline for g., 5mg) and titrate to the nsider a clinically appropriate metabolized by CYP2D6.
lamotrigine (Ar	•		►► arip	iprazole	poor usua CYP	Consider dose adjustment or alternate drug. Use with caution: in CYP2D poor metabolizers dose should initially be reduced to one-half (50%) of the usual dose and then adjusted to achieve favorable response. The dose in CYP2D6 PM patients who are administered a strong CYP3A4 inhibitor should be reduced to one-quarter (25%) of the usual dose. (Drug Label)				
			iloperi	done	Cons PM): Labe	decrease	e adjustmen e dose by 50	t or altern 0% due to	ate drug. o increased	Use with caution (CYP2D6 d iloperidone exposure. (Drug
			risperi	done	Cons cons PM)	sider dose ervatively	adjustmen due to incr	t or altern eased ris	ate drug. k of toxicit	Use with caution & dose y or intolerance. (CYP2D6
			asena	*			olic interacti			
			olanza	*			olic interacti			
				nazepine						, escitalopram
				azepine	-					, escitalopram
	PHARMA	COGEN	ETIC	TESTING E	BASE	DTR	ΕΑΤΜ	ENT	GUID	ANCE
	A	nxiety D	rug T	herapy Sele	ection	& Do	sing G	luidar	nce	
	Use as Directed				Use W <u>it</u>	h Ca <u>utio</u> r	n and/or Ind	creased I	Moni <u>torin</u> g	g
	Drug			Drug					osina	

Use as Directed	Use With Caution and/or Increased Monitoring						
Drug	Drug	Dosing					
pregabalin (Anticonvulsant)	clomipramine	Avoid use if clinically possible. Per CPIC guideline, avoid clomipramine use (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040					
buspirone (Azapirone) hydroxyzine (First Generation Antihistamine)	fluvoxamine	Consider alternate drug with more predictable response. Identification of multiple genetic variants influencing metabolism or response confounds					
alprazolam (Benzodiazepine)	nuvoxanine	therapeutic assessment [CYP2D6,HTTLPR].					
chlordiazepoxide (Benzodiazepine)							
clonazepam (Benzodiazepine)							

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Report Approval Date:

*** Electronic Signature On file ***

Report Approver:



Laboratory Test Report

Patient Name: Last, First			Patient ID:			Age: 28	Sex at Birth: Female	Sex at Birth: DOB: Female 02/13/1996				
Sample Type: Buccal Swab	Date Collected: 03/04/2024	Date Receive 03/05/202		Ordering Physician: TEST PHYSICIAN				Castle ID:				
Test Ordered: NeuroIDgenetix 9	02		Indication: NeuroIDgenetix				Report Date 03/07/20		Report Statu SAMPLE			
	PHARMAC	COGEN	IETIC	TESTING E	BASE		REATM	IENT	GUID	ANCE		
				Therapy Sele								
L	Ise as Directed		J				n and/or In			g		
	Drug			Drug					Dosing			
lorazepam (Ben oxazepam (Ben	· · · · ·		fluoxe	tine	HTT and	LPR S/S atypical r	genotype is	associat (CYP2D6	ted with dec	e response. SLC6A4 creased efficacy of SSRIs ncompletely characterized		
			parox	etine	mult	iple gene	rnate drug v tic variants ssessment	influencir	ng metaboli	e response. Identification of sm or response confounds		
			sertra	line	multi	iple gene	rnate drug v tic variants ssessment	influencir	ng metaboli	e response. Identification of sm or response confounds		
			venlat	axine	guid antic	Consider alternate drug with more predictable response. Per CPIC guideline for CYP2D6 PM, consider a clinically appropriate alternative antidepressant not predominantly metabolized by CYP2D6. PubMedID: 37032427						
			citalo	oram	Consider dose adjustment or alternate drug. Per CPIC guideline, if does not adequately respond to recommended maintenance dosin consider titrating to a higher maintenance dose or switching to a cli appropriate alternative antidepressant not predominantly metaboliz CYP2C19. Increased metabolism and lower plasma concentrations decrease the probability of clinical benefit (CYP2C19 RM), an effec compounded by the presence of the SLC6A4 HTTLPR S/S genoty associated with decreased efficacy of SSRIs. PubMedID: 3703242							
			►► esc	sitalopram	does cons appr CYP decr com	Consider dose adjustment or alternate drug. Per CPIC guideline, if patient does not adequately respond to recommended maintenance dosing, consider titrating to a higher maintenance dose or switching to a clinically appropriate alternative antidepressant not predominantly metabolized by CYP2C19. Increased metabolism and lower plasma concentrations decrease the probability of clinical benefit (CYP2C19 RM), an effect compounded by the presence of the SLC6A4 HTTLPR S/S genotype associated with decreased efficacy of SSRIs. PubMedID: 37032427						
			diazer	bam	sider dos apeuticall	e adjustmer y. Increase	nt or alter d dose m	nate drug. ay be requi	Use with caution & monitor red for response. (CYP2C19			
			dulox	etine [*]	Risk	of metab	olic interac	tion with	tobacco, ari	piprazole		
	PHARMAC	COGEN	IETIC	TESTING E	BASE		REATM	IENT	GUID	ANCE		
	Psy	/chosis	Drug	Therapy Se	electic	on & E	Dosing	Guid	ance			
L	Ise as Directed				Use Wit	h Ca <u>utio</u>	n and/or In	icrease <u>d</u>	Monitoring	g		
	Drug			Drug					Dosing			
quetiapine (SGA	A)		thiorio	lazine			linically pos	sible. Us	e contraind	icated in CYP2D6 PM. (Drug		
cariprazine (SG	A)			1421110 1	Labe	/		.4		All the second of the l		
lurasidone (SGA			clozer	vine	note	d that CY	′P2D6 has a	a relativel	y minor cor	While several studies have htribution to clozapine		
paliperidone (SC			clozar		meta	abolism, t	he drug lab r metabolize	el notes i	ť may be ne	ecessary to reduce dose in		

Laboratory Director: CLIA# 03D2096304

ziprasidone (SGA)

Ioxapine (First Generation Antipsychotic)

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Label)

Report Approval Date:

▶ aripiprazole

brexpiprazole

Report Approver:

*** Electronic Signature On file ***

Consider dose adjustment or alternate drug. Use with caution: in CYP2D6 poor metabolizers dose should initially be reduced to one-half (50%) of the usual dose and then adjusted to achieve favorable response. The dose in CYP2D6 PM patients who are administered a strong CYP3A4 inhibitor should be reduced to one-quarter (25%) of the usual dose. (Drug Label)

Consider dose adjustment or alternate drug. Use with caution: in CYP2D6 poor metabolizers dose should initially be reduced to one-half (50%) of the usual dose and then adjusted to achieve favorable response. The dose in

CYP2D6 PM patients who are administered a strong/moderate CYP3A4 inhibitor should be reduced to one-quarter (25%) of the usual dose. (Drug



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Patient Name: Last, First	Patient ID:	Age: Sex at Birth: DOB: 28 Female 02/13/1996						
Sample Type: Date Collected: Date Receive Buccal Swab 03/04/2024 03/05/202		Castle ID:						
Test Ordered: NeuroIDgenetix 902	Indication: NeuroIDgenetix	Report Date: Report Status: 03/07/2024 SAMPLE						
PHARMACOGEN	IETIC TESTING BA	SED TREATMENT GUIDANCE						
Psychosis	Drug Therapy Sele	ction & Dosing Guidance						
Use as Directed	Us	e With Caution and/or Increased Monitoring						
Drug	Drug	Dosing						
	iloperidone	Consider dose adjustment or alternate drug. Use with caution (CYP2D6 PM): decrease dose by 50% due to increased iloperidone exposure. (Drug Label)						
	risperidone	Consider dose adjustment or alternate drug. Use with caution & dose conservatively due to increased risk of toxicity or intolerance. (CYP2D6 PM)						
	chlorpromazine	Consider dose adjustment or alternate drug. Use with caution & dose conservatively due to increased risk of toxicity or intolerance. (CYP2D6 PM)						
	haloperidol	Consider dose adjustment or alternate drug. Per Dutch Pharmacogenetics Working Group Guideline, consider 50% dose reduction or select alternate drug. (CYP2D6 PM) Consider dose adjustment or alternate drug. Use with caution (CYP2D6 PM): poor metabolizers demonstrate higher blood concentrations which may lead to side effects. (Drug Label)						
	perphenazine							
	asenapine [*]	Risk of metabolic interaction with tobacco						
	olanzapine [*]	Risk of metabolic interaction with tobacco						
PHARMACOGEN	IETIC TESTING BA	SED TREATMENT GUIDANCE						
ADHD D	orug Therapy Select	ion & Dosing Guidance						
Use as Directed	Us	e With Caution and/or Increased Monitoring						
Drug	Drug	Dosing						
dexmethylphenidate (Stimulant) dextroamphetamine (Stimulant)	amphetamine	Consider dose adjustment or alternate drug. Use with caution & dose conservatively due to increased risk of toxicity or intolerance. (CYP2D6 PM)						
lisdexamfetamine (Stimulant) clonidine (Sympatholytic) guanfacine (Sympatholytic)	atomoxetine	Consider dose adjustment or alternate drug. Higher rate of adverse events reported among CYP2D6 poor metabolizers. Refer to Drug Label for weight based dose adjustment guidance for CYP2D6 poor metabolizers.						
	methylphenidate	PGx association. Reports of decreased response in children with ADRA2A variant result.						
PHARMACOGEN	NETIC TESTING BA	SED TREATMENT GUIDANCE						

Musculoskeletal Pain Drug Therapy Selection & Dosing Guidance

Use as Directed	U	Use With Caution and/or Increased Monitoring							
Drug	Drug	Dosing							
buprenorphine (Opioid)	#	Avoid use if clinically possible. Absent CYP2D6 activity (PM) greatly							
fentanyl (Opioid)	codeine [#]	reduces codeine's effectiveness (CPIC Guideline PubMedID: 24458010 while an OPRM1 A/G variant may diminish opioid analgesic response.							
tapentadol (Opioid)		Consider alternate drug with more predictable response. Although some conflicting evidence exists, reduced CYP2D6 activity (PM) might reduce							
diclofenac (NSAID)	hydrocodone	conflicting evidence exists, reduced CYP2D6 activity (PM) might red hydrocodone effectiveness (CPIC Guidelines PMID 24458010) while							
flurbiprofen (NSAID)		OPRM1 A/G variant may increase susceptibility to side effects.							
ibuprofen (NSAID)	hydromorphone	Consider alternate drug with more predictable response. OPRM1 variant may lead to more opioid-related side effects from hydromorphone.							
indomethacin (NSAID)	nyaromorphone	may lead to more opioid-related side effects from hydromorphone.							
mefenamic acid (NSAID)	evueedene	Consider alternate drug with more predictable response. OPRM1 A/G							
meloxicam (NSAID)	oxycodone	variant and absent CYP2D6 activity (PM) might both reduce oxycodone effectiveness.							
naproxen (NSAID)	**	Consider alternate drug with more predictable response. OPRM1 A/G							
piroxicam (NSAID)	tramadol [#]	variant and absent CYP2D6 activity (PM) might reduce tramadol effectiveness (CPIC Guideline PubMedID: 24458010).							

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Report Approval Date:

Report Approver

*** Electronic Signature On file ***



Laboratory Test Report

Patient Name: Last, First	Patient ID:			Age: Sex at Bi 28 Femal		DOB: 02/13/1996			
	ate Received: Or 03/05/2024 T	dering Physician: EST PHYSICIAI	N		Castle ID:				
Test Ordered:	Indication:			Report D		Report Status:			
NeuroIDgenetix 902	NeurolDger	netix		03/07/	2024	SAMPLE			
PHARMACC		ESTING	BASE	D TREAT	MENT	GUIDANCE			
Musculosk	eletal Pain D	Drug Ther	rapy Se	lection & I	Dosing	g Guidance			
Use as Directed			Use With	Caution and/or	Increased	d Monitoring			
Drug		Drug Dosing							
	morphine	9	ate drug. OPRM1 A/G and COMT A/G nalgesic response.						
	duloxetir	ne [*]				tobacco, aripiprazole			
	methado	*		of metabolic inter					
	celecoxil	o [*]	Risk	of metabolic inter	action with	aripiprazole			
	DGENETIC 1		election		Guida				
Drug		Drug				Dosing			
diclofenac (NSAID)	celecoxil	*		of metabolic inter					
flurbiprofen (NSAID)	hydroxyd	chloroquine	Risk	of metabolic inter	action with	aripiprazole			
ibuprofen (NSAID) indomethacin (NSAID)									
mefenamic acid (NSAID)									
meloxicam (NSAID)									
naproxen (NSAID)									
piroxicam (NSAID)									
azathioprine (DMARD)									
cyclophosphamide (DMARD)									
leflunomide (DMARD) methotrexate (DMARD)									
sulfasalazine (DMARD)									
abatacept (Biologic DMARD)									
adalimumab (Biologic DMARD)									
anakinra (Biologic DMARD)									
certolizumab (Biologic DMARD)									
etanercept (Biologic DMARD)									
golimumab (Biologic DMARD) infliximab (Biologic DMARD)									
rituximab (Biologic DMARD)									
tocilizumab (Biologic DMARD)									
tofacitinib (Biologic DMARD)									
PHARMACC		TESTING	BASE	D TREAT	MENT	GUIDANCE			
Migr	aine Drug T	herapy So	election	& Dosing	g Guida	ance			
Use as Directed Drug		Drug	Use With	Caution and/or	Increased	l Monitoring Dosing			
diclofenac (NSAID)			Avoid	use if clinically n	ossible. Pe	er CPIC quideline, avoid amitriptyline use			
flurbiprofen (NSAID)	amitripty	line	(CYP	2C19 RM, CYP2	D6 PM). Pi	ubMedID: 27997040			
ibuprofen (NSAID)									
indomethacin (NSAID)									
Laboratory Director:	Report Approver:			Report Approval Da	ate.	*** Electronic Signature On file ***			
	iosciences, 3737 N 7th	St. Suite 160 Phor	anix A7 85014						
CLIA# USD2090304 Castle E	iosciences, 3/3/ IN /IN	St. Suite 100 PROE	5111X, AZ 05014	, 1-000-700-9007, S	upport@cas				



Laboratory Test Report

Patient Name: Last, First			Patient ID:		Age: 28	Sex at Birth: Female			DOB: 02/13/1996		
Sample Type: Buccal Swab	Date Collected: 03/04/2024	Date Receive 03/05/20		Ordering Physician: TEST PHYSICIAN				Castle ID: i0000-24	1		
Test Ordered: NeuroIDgenetix 90	Test Ordered: NeuroIDgenetix 902			Indication: NeuroIDgenetix			Report Date 03/07/20		Report Statu SAMPLE	IS:	
	PHARMAC	OGEN	NETIC	TESTING B	ASE	DTR	EATM	IENT	GUID	ANCE	
	Mig	graine	Drug	Therapy Sele	ctior	n & Do	osing	Guida	nce		
U	se as Directed			Use With Caution and/or Increased Monitoring							
	Drug			Drug				Ľ	osing		
mefenamic acid meloxicam (NSA naproxen (NSAI piroxicam (NSAI	.ID) D)	desip	ramine	Avoid use if clinically possible. Per CPIC guideline, avoid tricyclic use d to potential for side effects (CYP2D6 PM). Consider alternative drug no metabolized by CYP2D6. If a TCA is warranted, consider a 50% reduct of recommended starting dose. Utilize therapeutic drug monitoring to guide dose adjustments. PubMedID: 27997040					onsider alternative drug not ed, consider a 50% reduction eutic drug monitoring to		
almotriptan (Trip	otan)		doxep	bin	Avoid use if clinically possible. Per CPIC guideline, avoid doxepin u (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040				leline, avoid doxepin use ′997040		
eletriptan (Tripta frovatriptan (Trip	1		imipramine			Avoid use if clinically possible. Per CPIC guideline, avoid imipramine use (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040					
naratriptan (Trip rizatriptan (Tripta sumatriptan (Trip caffeine & erget	an)	nortri	ptyline	Avoi to po meta of re guide	Avoid use if clinically possible. Per CPIC guideline, avoid tricyclic use due to potential for side effects (CYP2D6 PM). Consider alternative drug not metabolized by CYP2D6. If a TCA is warranted, consider a 50% reduction of recommended starting dose. Utilize therapeutic drug monitoring to guide dose adjustments. PubMedID: 27997040						
gabapentin (Anti			zolmit	triptan [*]	Risk	of metabo	olic interac	tion with to	obacco		
valproate (Antico			· · ·	anolol	Risk	of metabo	olic interac	tion with to	obacco		
	· · · · · · · · · · · · · · · · · · ·		celecoxib [*]			Risk of metabolic interaction with aripiprazole					
			topira	mate	Risk	of metabo	olic interac	tion with a	ripiprazole		
	PHARMACOGENETIC TESTING BASED TREATMENT GUIDANCE										

Neuropathic Pain Drug Therapy Selection & Dosing Guidance

Use as Directed		Use With Caution and/or Increased Monitoring
Drug	Drug	Dosing
pregabalin (Anticonvulsant)	amitriptyline	Avoid use if clinically possible. Per CPIC guideline, avoid amitriptyline use (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040
diclofenac (NSAID)		
flurbiprofen (NSAID)		Avoid use it clinically possible. Per CPIC guideline, avoid tricyclic use due to potential for side effects (CYP2D6 PM). Consider alternative drug pot
ibuprofen (NSAID)	desipramine	Avoid use if clinically possible. Per CPIC guideline, avoid tricyclic use due to potential for side effects (CYP2D6 PM). Consider alternative drug not metabolized by CYP2D6. If a TCA is warranted, consider a 50% reduction
indomethacin (NSAID)		of recommended starting dose. Utilize therapeutic drug monitoring to guide dose adjustments. PubMedID: 27997040
mefenamic acid (NSAID)		
meloxicam (NSAID)	doxepin	Avoid use if clinically possible. Per CPIC guideline, avoid doxepin use (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040
naproxen (NSAID)	imipramine	Avoid use if clinically possible. Per CPIC guideline, avoid imipramine use (CYP2C19 RM, CYP2D6 PM). PubMedID: 27997040
piroxicam (NSAID)	-	
gabapentin (Anticonvulsant)		Avoid use if clinically possible. Per CPIC guideline, avoid tricyclic use due to potential for side effects (CYP2D6 PM). Consider alternative drug not
milnacipran (SNRI)	nortriptyline	Avoid use if clinically possible. Per CPIC guideline, avoid tricyclic use due to potential for side effects (CYP2D6 PM). Consider alternative drug not metabolized by CYP2D6. If a TCA is warranted, consider a 50% reduction of recommended starting dose. Utilize therapeutic drug monitoring to guide dose adjustments. PubMedID: 27997040
	carisoprodol	Consider dose adjustment or alternate drug. Use with caution & monitor therapeutically. Increased dose may be required for response. (CYP2C19 RM)
	duloxetine	Risk of metabolic interaction with tobacco, aripiprazole
	celecoxib	Risk of metabolic interaction with aripiprazole
	carbamazepine	Risk of metabolic interaction with aripiprazole, escitalopram

Report Approval Date:



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Sample Type: Date Collected: Date Receive Buccal Swab 03/04/2024 03/05/20.		Ordering Physician: TEST PHYSICIAN			Castle ID:			
Test Ordered: NeuroIDgenetix 902	Indication: NeuroID	genetix	Report Date: Report Status: 03/07/2024 SAMPLE					
PHARMACOGE	IETIC	TESTING BA	SED TR	EATN	IENT	GUID	ANCE	
Seizure Disor	der D	orug Therapy S	Selection	& Dos	sing G	Guidano	ce	
Use as Directed		Us	e With Cautior	n and/or li	ncreased	Monitoring	3	
Drug		Drug				Dosing		
pregabalin (Anticonvulsant) clonazepam (Benzodiazepine)	diazep	bam					Use with caution & monitor red for response. (CYP2C19	
gabapentin (Anticonvulsant) valproate (Anticonvulsant) lamotrigine (Anticonvulsant)	cloba	zam					Use with caution & monitor red for response. (CYP2C19	
ethosuximide (Anticonvulsant) ethotoin (Anticonvulsant)	fosph	enytoin					Use with caution & monitor red for response. (CYP2C19	
ezogabine (Anticonvulsant) lacosamide (Anticonvulsant)	meths	uximide	Consider dose adjustment or alternate drug. Use with caution & monitor therapeutically. Increased dose may be required for response. (CYP2C19 RM)					
levetiracetam (Anticonvulsant) lorazepam (Anticonvulsant) pentobarbital (Anticonvulsant)	phenc	barbital	Consider dose adjustment or alternate drug. Use with caution & monitor therapeutically. Increased dose may be required for response. (CYP2C19 RM)					
perampanel (Anticonvulsant) rufinamide (Anticonvulsant)	pheny	rtoin	Consider dose therapeutically RM)	adjustme . Increase	nt or alte d dose m	rnate drug. nay be requi	Jse with caution & monitor red for response. (CYP2C19	
tiagabine (Anticonvulsant) vigabatrin (Anticonvulsant)	primic	lone	Consider dose therapeutically RM)	adjustme . Increase	nt or alte d dose m	rnate drug. nay be requi	Use with caution & monitor red for response. (CYP2C19	
zonisamide (Anticonvulsant)	topira	mate [*]	Risk of metabo	olic interac	tion with	aripiprazole		
	carba	mazepine	Risk of metabo	olic interac	tion with	aripiprazole	, escitalopram	
	oxcar	bazepine	Risk of metabo	olic interac	tion with	aripiprazole	, escitalopram	
	eslica	rbazepine	Risk of metabo	olic interac	tion with	aripiprazole	, escitalopram	
	felban	nate	Risk of metabo	olic interac	tion with	escitaloprar	n	



Laboratory Test Report

Patient Name: Last, First			Patient ID:		Age: 28	Sex at Birth: Female		DOB: 02/13/1996	
Sample Type: Buccal Swab	Date Collected: 03/04/2024	Date Receive 03/05/202	ed: 0 24	Drdering Physician: TEST PHYSICIAN		Castle ID:			
			Indication: NeuroIDge	enetix			eport Statu AMPLE	S:	
LABORATORY RESULTS AND PHARMACOGENETIC TEST ANALYSIS									
Gene				Star Allele		Metabolizer Phenotyp	be	Clinically Significant	
				Genotype/Diplotyp	e	PM/IM/NM/RM/UM			
A	BCB1 [NM_000927.	4:c.3435C>T]		T/T		N/A		No	
ADRA2A	A -1291C>G [NM_00	0681.3:c125	2G>C]	C/C		N/A		Yes	
C	COMT [NM_000754.3	3:c.472G>A]		A/G		N/A		Yes	
	CYP1A2			*1/*1		NM		No	
	CYP2C1)		*1/*17		RM		Yes	
	CYP2C9			*1/*1		NM		No	
	CYP2D6			*4/*4		PM		Yes	
	CYP3A4			*1/*1		NM		No	
	CYP3A5			*1/*3		IM		Yes	
H	TR2A [NM_000621.4	4:c998G>A]		A/G		N/A		No	
HTR	R2A [NM_000621.4:0	.614-2211T>	C]	C/T		N/A		No	
H	TR2C [NM_000868.:	2:c697G>C]		C/G		N/A		No	
н	TR2C [NM_000868.	2:c759C>T]		C/T		N/A		No	
H	HTR2C [NM_000868	.2:c.68G>C]		G/G		N/A		No	
MTHF	R A1298C [NM_005	957.3:c.1286	4>C]	A/C		N/A		No	
MTH	FR C677T [NM_005	957.3:c.665C	>T]	C/T		N/A		No	
	NAT2			*4/*6		IA		No	
0	PRM1 [NM_000914	.3:c.118A>G]		A/G		N/A		Yes	
	SLC6A4 5-HT	TLPR		Short/Short		N/A		Yes	
SL	.C6A4 [NM_001045.	4:c1760C>T	1	C/C		N/A		Νο	



Laboratory Test Report

atient Name: L ast, First		Pat	ient ID:		Age: 28	Sex at Birth: Female			DOB: 02/13/1996	
mple Type: Succal Swab	Date Collected: 03/04/2024	Date Received: 03/05/2024	Ordering Physician: TEST PHYSICIAN				Castle ID:			
st Ordered: euroIDgenetix	902		^{cation:} euroIDgenetix		Report Date: Repor 03/07/2024 SAM			eport Statu: AMPLE	tatus: _E	
			SUMMARY 8	COM	MEN.	TS				
Patient has on	e or more variant alle	les present amo	ong the gene(s) analyzed.							
			imn in the table above are detected and therefore car						chanism of action is	
	sted in the "Use with 0 ne genetic variants de		ncreased Monitoring" are e	either metat	oolized ina	adequately	or their mec	hanism o	of action is potentially	
			r; NM: Normal Metabolizer netabolizer phenotype not					etabolize	r; RA: Rapid Acetylator; I	
MTHFR C677 associated wit	T genotype: C/T; A12 h low enzyme activity	98C genotype: .	A/C. MTHFR genotype (on	e copy of th	ne C677T	mutation ar	nd one copy	of the A	1298C mutation) is	
Symbol in	dicates inclusion on th	ne patient's med	ication list at the time of te	sting.						
Drug-Drug in	teractions.									
^t CYP-activate	ed prodrug.									
			METHODS &			N5				
The genes are analyzed for e sequence vari may be found	e amplified enzymatica ach gene. The results ations, interfering sub	ally and subjecto of this analysis stances presen d. Mutations in o	presence or absence of all ed to a multiplex allele-spe- are highly accurate, howe t in the sample, or sample ther genes and other non- ected by this assay.	cific fluores ever, false p contaminat	cence del ositive or ion. This a	ection meth negative re assay panel	nod. The mo sults may o l does not te	est clinica ccur for i est for all	ally relevant loci are reasons that include rare possible mutations that	
may have pha	rmacodynamic or pha	rmacokinetic dr	ug-drug interactions not rep ug-drug interactions with a ermining if counseling abou	lcohol and	should be	avoided. C	linicians sh	ould use	their own judgment in	
ore-therapeuti			peutic drug monitoring or o ta as entered or omitted or							
contrary to the	se suggestions. Thes	e test results sh	s based upon current litera nould be considered in the iagnosis, patient managen	context of c	other clinic	cal criteria b	y á qualified			
The FDA has	determined that tests	such as these o	Biosciences for clinical use to not require clearance or ualified to perform high con	approval. (Castle Bio	sciences is	certified une			

When applicable, a list of alleles tested is available upon request.

Report Approval Date: