MI PROFILE™
MOLECULAR INTELLIGENCE TUMOR REPORT

CARIS® LIFE SCIENCES

FINAL REPORT

PATIENT

Name: Patient, Test
Date of Birth:
Sex: Female
Case Number: TN14-111111
Diagnosis: Infiltrating duct adenocarcinoma

SPECIMEN INFORMATION

Primary Tumor Site: Breast, NOS
Specimen Site: Breast, NOS
Specimen ID: ABC-12345-YZ
Specimen Collected: XX-Mon-2014
Completion of Testing: XX-Mon-2014

ORDERED BY

Ordering Physician, MD
The Cancer Center
12345 Main Street
Springfield, YZ
(123) 456-7890

Bold Therapies = On NCCN Compendium® Therapies

✔ THERAPIES WITH **POTENTIAL BENEFIT** (PAGE 3)

capecitabine, fluorouracil	TS★
docetaxel, paclitaxel	PGP, TLE3★
gemcitabine	RRM1★
dacarbazine, temozolomide	MGMT★
irinotecan	TOPO1
pemetrexed	TS★

★ **Indicates Clinical Trial Opportunity • 196 Chemotherapy Trials • 16 Targeted Therapy Trials** *(See Clinical Trials Connector™ on page 7 for details.)*

✘ THERAPIES WITH **POTENTIAL LACK OF BENEFIT** (PAGE 4)

ado-trastuzumab emtansine (T-DM1), lapatinib, pertuzumab	Her2/Neu
anastrozole, exemestane, fulvestrant, goserelin, letrozole, leuprolide, megestrol acetate, tamoxifen, toremifene	PR, ER
doxorubicin, epirubicin, liposomal-doxorubicin	TOP2A, Her2/Neu
everolimus	ER, PIK3CA
trastuzumab	PTEN, PIK3CA, Her2/Neu
dabrafenib, vemurafenib	BRAF
temsirolimus	ER, PIK3CA

? THERAPIES WITH **INDETERMINATE BENEFIT** (PAGE 6)

carboplatin, cisplatin	imatinib	vandetanib
nab-paclitaxel	oxaliplatin	

Therapies associated with potential benefit or lack of benefit, as indicated above, are based on biomarker results provided in this report and are based on published medical evidence. This evidence may have been obtained from studies performed in the cancer type present in the tested patient's sample or derived from another tumor type. The selection of any, all, or none of the matched therapies resides solely with the discretion of the treating physician. Decisions on patient care and treatment must be based on the independent medical judgment of the treating physician, taking into consideration all available information in addition to this report concerning the patient's condition in accordance with the applicable standard of care.

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SUMMARY OF BIOMARKER RESULTS (SEE APPENDIX FOR FULL DETAILS)

Biomarker	Method	Result	Biomarker	Method	Result
ABL1	NGS	Mutation Not Detected	IDH1	NGS	Mutation Not Detected
AKT1	NGS	Mutation Not Detected	JAK2	NGS	Mutation Not Detected
ALK	NGS	Mutation Not Detected	KDR (VEGFR2)	NGS	Mutation Not Detected
Androgen Receptor	IHC	Negative	KRAS	NGS	Mutation Not Detected
APC	NGS	Mutation Not Detected	MGMT	IHC	Negative
ATM	NGS	Mutation Not Detected	MPL	NGS	Mutation Not Detected
BRAF	NGS	Mutation Not Detected	NOTCH1	NGS	Mutation Not Detected
BRCA1	NGS	Mutation Not Detected	NRAS	NGS	Mutation Not Detected
BRCA2	NGS	Mutation Not Detected	PD-1 IHC	IHC	Negative
c-KIT	NGS	Mutation Not Detected	PDGFRA	NGS	Mutation Not Detected
cMET	NGS	Mutation Not Detected	PD-L1 IHC	IHC	Negative
cMET	CISH	Not Amplified	PGP	IHC	Negative
cMET	IHC	Negative	PIK3CA	NGS	Mutation Not Detected
CSF1R	NGS	Mutation Not Detected	PR	IHC	Negative
CTNNB1	NGS	Mutation Not Detected	PTEN	NGS	Mutation Not Detected
EGFR	IHC	Positive	PTEN	IHC	Positive
EGFR	NGS	Mutation Not Detected	RET	NGS	Mutation Not Detected
ER	IHC	Negative	RRM1	IHC	Negative
FGFR1	NGS	Mutation Not Detected	SMO	NGS	Mutation Not Detected
FGFR2	NGS	Mutation Not Detected	SPARC Monoclonal	IHC	Negative
FLT3	NGS	Mutation Not Detected	SPARC Polyclonal	IHC	Negative
GNA11	NGS	Mutation Not Detected	TLE3	IHC	Positive
GNAQ	NGS	Mutation Not Detected	TOP2A	CISH	Not Amplified
GNAS	NGS	Mutation Not Detected	TOPO1	IHC	Positive
Her2/Neu	CISH	Not Amplified	TP53	NGS	Mutated | R213X
Her2/Neu	IHC	Negative	TS	IHC	Negative
Her2/Neu (ERBB2)	NGS	Mutation Not Detected	TUBB3	IHC	Positive
HRAS	NGS	Mutation Not Detected	VHL	NGS	Mutation Not Detected

IHC: Immunohistochemistry **CISH:** Chromogenic *in situ* hybridization **NGS:** Next-Generation Sequencing

For Next-Generation Sequencing, a total of 35 genes were analyzed. The results above include genes most commonly associated with cancer and any additional mutations identified. No alterations were identified in 34 genes. For a complete list of genes tested, visit www.CarisMolecularIntelligence.com/profilemenu.

See the Appendix section for a detailed overview of the biomarker test results for each technology.

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✔ THERAPIES WITH **POTENTIAL BENEFIT**

Therapies	Test	Method	Result	Value†	Clinical Association				
					Potential Benefit	Decreased Potential Benefit	Lack of Potential Benefit	Highest Level of Evidence*	Reference
capecitabine, fluorouracil, pemetrexed	TS	IHC	Negative	1+ 5%	✔			II-1 / Good	21, 22#, 23#
dacarbazine, temozolomide	MGMT	IHC	Negative	1+ 30%	✔			II-2 / Good	32, 33
docetaxel, paclitaxel	PGP	IHC	Negative	0+ 100%	✔			II-3 / Fair	34, 35
	TLE3	IHC	Positive	2+ 70%	✔			II-2 / Good	36#
gemcitabine	RRM1	IHC	Negative	2+ 45%	✔			I / Good	48
irinotecan	TOPO1	IHC	Positive	2+ 35%	✔			II-1 / Good	54, 55, 56

* The level of evidence for all references is assigned according to the Literature Level of Evidence Framework consistent with the US Preventive Services Task Force described further in the Appendix of this report. The data level of each biomarker-drug interaction is the highest level of evidence based on the body of evidence, overall clinical utility, competing biomarker interactions and tumor type from which the evidence was gathered.

Evidence reference includes data from the same lineage as the tested specimen.

†Refer to Appendix for detailed Result and Value information for each biomarker, including appropriate cutoffs, unit of measure, etc.

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✘ THERAPIES WITH **POTENTIAL LACK OF BENEFIT**

Therapies	Test	Method	Result	Value†	Clinical Association				
					Potential Benefit	Decreased Potential Benefit	Lack of Potential Benefit	Highest Level of Evidence*	Reference
ado-trastuzumab emtansine (T-DM1), lapatinib, pertuzumab	Her2/Neu	CISH	Not Amplified	1.31			✔	I / Good	1#, 2#, 3#, 4#, 5#, 6#, 7#, 8#, 9#
	Her2/Neu	IHC	Negative	0+ 100%			✔	I / Good	1#, 2#, 3#, 4#, 5#, 6#, 7#, 8#
anastrozole, exemestane, fulvestrant, goserelin, letrozole, leuprolide, megestrol acetate, tamoxifen, toremifene	ER	IHC	Negative	0+ 100%			✔	I / Good	10#, 13#, 14#, 15#, 16#, 17#, 18#, 19#, 20#
	PR	IHC	Negative	0+ 100%			✔	I / Good	10#, 11#, 12#, 13#, 14#, 15#, 16#, 17#, 18#
dabrafenib, vemurafenib	BRAF	Next Gen SEQ	Wild Type				✔	I / Good	28, 29, 30, 31
doxorubicin, epirubicin, liposomal-doxorubicin	Her2/Neu	CISH	Not Amplified	1.31			✔	I / Good	2#, 9#, 40#, 41#
	TOP2A	CISH	Not Amplified	1.30			✔	I / Good	37#, 38#, 39#, 40#
everolimus, temsirolimus	ER	IHC	Negative	0+ 100%			✔	I / Good	42#, 43#, 44#
	PIK3CA	Next Gen SEQ	Wild Type				✔	II-2 / Good	45, 46, 47

Additional Therapies Associated with Potential Lack of Benefit continued on the next page. >

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✘ THERAPIES WITH **POTENTIAL LACK OF BENEFIT**

Therapies	Test	Method	Result	Value†	Clinical Association				
					Potential Benefit	Decreased Potential Benefit	Lack of Potential Benefit	Highest Level of Evidence*	Reference
trastuzumab	Her2/Neu	CISH	Not Amplified	1.31			✔	I / Good	2#, 5#, 9#, 61#, 62#
	Her2/Neu	IHC	Negative	0+ 100%			✔	I / Good	2#, 5#, 61#, 62#
	PIK3CA	Next Gen SEQ	Wild Type					II-3 / Good	59#, 60#
	PTEN	IHC	Positive	1+ 95%				II-3 / Good	59#, 60#

* The level of evidence for all references is assigned according to the Literature Level of Evidence Framework consistent with the US Preventive Services Task Force described further in the Appendix of this report. The data level of each biomarker-drug interaction is the highest level of evidence based on the body of evidence, overall clinical utility, competing biomarker interactions and tumor type from which the evidence was gathered.

Evidence reference includes data from the same lineage as the tested specimen.

†Refer to Appendix for detailed Result and Value information for each biomarker, including appropriate cutoffs, unit of measure, etc.

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? THERAPIES WITH **INDETERMINATE BENEFIT**

(Biomarker results do not impact potential benefit or lack of potential benefit)

Therapies	Test	Method	Result	Value†	Clinical Association				
					Potential Benefit	Decreased Potential Benefit	Lack of Potential Benefit	Highest Level of Evidence*	Reference
carboplatin, cisplatin, oxaliplatin	BRCA1	Next Gen SEQ	Mutation Not Detected				✔	II-2 / Good	24, 25, 26, 27
	BRCA2	Next Gen SEQ	Mutation Not Detected				✔	II-2 / Good	24, 26, 27
imatinib	c-KIT	Next Gen SEQ	Wild Type				✔	II-2 / Good	52, 53
	PDGFRA	Next Gen SEQ	Wild Type				✔	II-3 / Good	49, 50, 51
nab-paclitaxel	SPARC Monoclonal	IHC	Negative	1+ 90%			✔	II-2 / Good	57, 58
	SPARC Polyclonal	IHC	Negative	1+ 90%			✔	II-2 / Good	57, 58
vandetanib	RET	Next Gen SEQ	Wild Type					I / Good	63

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†Refer to Appendix for detailed Result and Value information for each biomarker, including appropriate cutoffs, unit of measure, etc.

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CLINICAL TRIALS CONNECTOR™

For a complete list of open, enrolling clinical trials visit MI Portal to access the **Clinical Trials Connector** . This personalized, real-time web-based service provides additional clinical trial information and enhanced searching capabilities, including, but not limited to:

- Location: filter by geographic area
- Biomarker(s): identify specific biomarkers associated with open clinical trials to choose from
- Drug(s): search for specific therapies
- Trial Sponsor: locate trials based on the organization supporting the trial(s)

Visit www.CarisMolecularIntelligence.com to view all matched trials.

CHEMOTHERAPY CLINICAL TRIALS (196)

Drug Class	Biomarker	Method	Investigational Agent(s)
Alkylating agents (3)	MGMT	IHC	dacarbazine
Antifolates (3)	TS	IHC	methotrexate
Nucleoside analog (42)	RRM1	IHC	gemcitabine
Pyrimidine analog (82)	TS	IHC	capecitabine, fluorouracil
Taxanes (66)	TLE3	IHC	cabazitaxel, docetaxel

TARGETED THERAPY CLINICAL TRIALS (16)

Drug Class	Biomarker	Method	Investigational Agent(s)
Cell cycle inhibitors (3)	TP53	Next Gen SEQ	LY2606368, MK-1775
EGFR monoclonal antibody (13)	EGFR	IHC	cetuximab

( ) = represents the total number of clinical trials identified by the Clinical Trials Connector for the provided drug class or table.

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To view the rest of the report, contact a Caris Molecular Intelligence™ representative today.

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