TEMPUS | ONCOLOGY

Tempus xG Hereditary Cancer Panels

A complete picture of your patient's disease includes their hereditary risk.

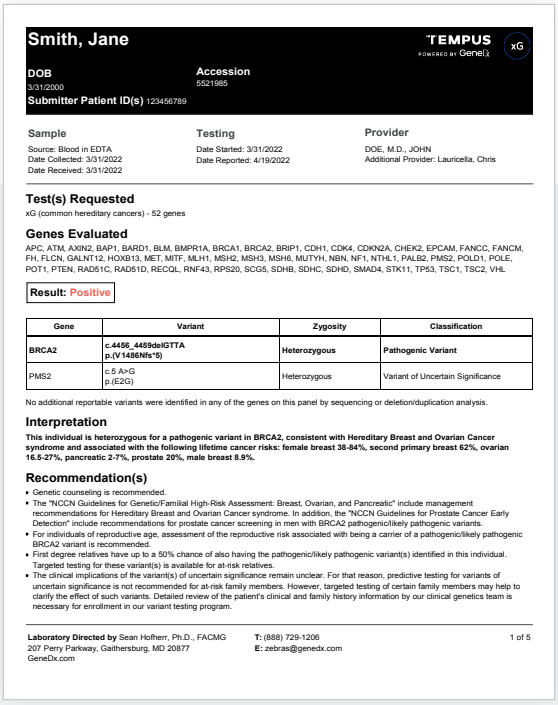
Tempus now offers both somatic and germline testing through one platform

Tempus xG, powered by GeneDx, is validated germline testing offered in addition to Tempus somatic testing, providing a more comprehensive view of your patient's molecular profile.

These results can be used to specifically identify germline variants associated with hereditary cancer syndromes. Through one platform, you can order somatic, germline, and algorithmic testing with reports delivered through the Tempus HUB.

GERMLINE OFFERINGS

- xG+ (extended hereditary cancers): 88 gene panel covering genes associated with both common and rare hereditary cancers (more comprehensive).
- xG (common hereditary cancers): 52 gene panel covering genes associated with six of the most common hereditary cancer types (breast, ovarian, colorectal, endometrial, prostate, pancreatic).
- Reports pathogenic, likely pathogenic, and variants of uncertain significance. Amended reports are provided for variant reclassifications when available.
- Available to order as confirmatory testing of incidental germline findings reported on xT, potentially allowing for identification of more patients with hereditary cancer risk.
- Familial variant/cascade testing is available for at-risk family members at no additional cost if ordered within 90 days of original xG+ or xG report (out to third degree relatives).



Smith, Jane

TEMPUS xG POWERED BY GeneDx

DOB 3/31/2000

Accession 5521985

Submitter Patient ID(s) 123456789

Sample
Source: Blood in EDTA
Date Collected: 3/31/2022
Date Received: 3/31/2022

Testing
Date Started: 3/31/2022
Date Reported: 4/19/2022

Provider
DOE, M.D., JOHN
Additional Provider: Lauricella, Chris

Test(s) Requested
xG (common hereditary cancers) - 52 genes

Genes Evaluated
APC, ATM, AXIN2, BAP1, BARD1, BLM, BMPR1A, BRCA1, BRCA2, BRIP1, CDH1, CDK4, CDKN2A, CHEK2, EPCAM, FANCC, FANCM, FH, FLCN, GALNT12, HOXB13, MET, MITF, MLH1, MSH2, MSH3, MSH6, MUTYH, NBN, NF1, NTHL1, PALB2, PMS2, POLD1, POLE, POT1, PTEN, RAD51C, RAD51D, RECQL, RNF43, RPS20, SCG5, SDHB, SDHC, SDHD, SMAD4, STK11, TP53, TSC1, TSC2, VHL

Result: Positive

Gene	Variant	Zygosity	Classification
BRCA2	**c.4456_4459delGTTA p.(V1486Nfs*5)**	**Heterozygous**	**Pathogenic Variant**
PMS2	c.5 A>G p.(E2G)	Heterozygous	Variant of Uncertain Significance

No additional reportable variants were identified in any of the genes on this panel by sequencing or deletion/duplication analysis.

Interpretation
This individual is heterozygous for a pathogenic variant in BRCA2, consistent with Hereditary Breast and Ovarian Cancer syndrome and associated with the following lifetime cancer risks: female breast 38-84%, second primary breast 62%, ovarian 16.5-27%, pancreatic 2-7%, prostate 20%, male breast 8.9%.

Recommendation(s)
- Genetic counseling is recommended.
- The "NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic" include management recommendations for Hereditary Breast and Ovarian Cancer syndrome. In addition, the "NCCN Guidelines for Prostate Cancer Early Detection" include recommendations for prostate cancer screening in men with BRCA2 pathogenic/likely pathogenic variants.
- For individuals of reproductive age, assessment of the reproductive risk associated with being a carrier of a pathogenic/likely pathogenic BRCA2 variant is recommended.
- First degree relatives have up to a 50% chance of also having the pathogenic/likely pathogenic variant(s) identified in this individual. Targeted testing for these variant(s) is available for at-risk relatives.
- The clinical implications of the variant(s) of uncertain significance remain unclear. For that reason, predictive testing for variants of uncertain significance is not recommended for at-risk family members. However, targeted testing of certain family members may help to clarify the effect of such variants. Detailed review of the patient's clinical and family history information by our clinical genetics team is necessary for enrollment in our variant testing program.

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TECHNICAL SPECIFICATIONS

- Specimen: peripheral blood (EDTA tube) or buccal (cheek) swab
- Single nucleotide variants, insertion/deletions, copy number variants, and gene rearrangements
- Alternative sequencing or copy number detection methods, such as Sanger sequencing, MLPA, and arrayCGH, are used to analyze or confirm regions with inadequate sequence or copy number data by NGS
- Average coverage: ~500x depth, >99% sensitivity

Financial Assistance Program

We help provide access to our tests for patients in financial need. All Tempus tests, including xG, are covered under the program. Patients can complete the application online at access.tempus.com or call 800.739.4137 to speak to a member of our team.

Please reach out to your local Tempus representative for more details on this offering.

Gene Lists

xG+ (EXTENDED HEREDITARY CANCERS) - 88 GENES:

AIP	BRCA2*	DICER1*	KIT*	NBN*	PRKAR1A*	SAMD9	SRP72
ALK	BRIP1*	EPCAM*	LZTR1	NF1*	PTCH1*	SAMD9L	STK11*
ANKRD26	CDC73	ETV6*	MAX*	NF2*	PTEN*	SDHA*	SUFU*
APC*	CDH1*	FANCC	MEN1*	NTHL1*	RAD51C*	SDHAF2*	TERC
ATM*	CDK4*	FANCM	MET*	PALB2*	RAD51D*	SDHB*	TERT
AXIN2*	CDKN1B	FH*	MITF	PDGFRA*	RB1*	SDHC*	TMEM127*
BAP1*	CDKN2A*	FLCN*	MLH1*	PHOX2B*	RECQL	SDHD*	TP53*
BARD1*	CEBPA*	GATA2*	MSH2*	PMS2*	RET*	SMAD4*	TSC1*
BLM*	CHEK2*	GALNT12	MSH3*	POLD1*	RNF43	SMARCA4*	TSC2*
BMPR1A*	CTNNA1	GREM1 (SCG5)	MSH6*	POLE*	RPS20	SMARCB1*	VHL*
BRCA1*	DDX41	HOXB13	MUTYH*	POT1	RUNX1*	SMARCE1	WT1*

xG (COMMON HEREDITARY CANCERS) - 52 GENES:

APC*	CDK4*	MET*	PMS2*	SDHC*
ATM*	CDKN2A*	MITF	POLD1*	SDHD*
AXIN2*	CHEK2*	MLH1*	POLE*	SMAD4*
BAP1*	EPCAM*	MSH2*	POT1	STK11*
BARD1*	FANCC	MSH3*	PTEN*	TP53*
BLM*	FANCM	MSH6*	RAD51C*	TSC1*
BMPR1A*	FH*	MUTYH*	RAD51D*	TSC2*
BRCA1*	FLCN*	NBN*	RECQL	VHL*
BRCA2*	GALNT12	NF1*	RNF43	
BRIP1*	GREM1 (SCG5)	NTHL1*	RPS20	
CDH1*	HOXB13	PALB2*	SDHB*	

**Included on xT Germline Incidental Findings List (see xT disclaimers for reporting limitations)*