NORTH YORK GENERAL

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MEMO

Re: Hereditary Cancer Panel Testing

Ontario Health/Cancer Care Ontario recently launched a program with the goal of standardizing comprehensive hereditary cancer testing across Ontario. This will allow hereditary cancer testing to be standardized, comprehensive, evidence based and coordinated across the province.

The Molecular Genetics Laboratory at North York General will be offering the standardized panel testing for hereditary cancer effective April 19, 2021. The gene panels are listed below. The updated Hereditary Cancer Requisition is included. It will also be made available at North York General website www.nygh.on.ca/genetics/labs. The turnaround times will be 6~8 weeks for routine testing, and 4 weeks for expedited.

If you have any questions or concerns, please contact the Laboratory Geneticist Dr. Hong Wang (416) 756-6796 hong.wang@nygh.on.ca

Hereditary Cancer Testing Common Gene Panels	
Syndrome / Disease Site	Associated Genes
Hereditary Breast/ Ovarian/ Prostate	ATM, BARD1, BRCA1, BRCA2, BRIP1, CDH1, CHEK2, EPCAM, HOXB13, MLH1, MSH2, MSH6, PALB2, PMS2, PTEN, RAD51C, RAD51D, STK11, TP53
Hereditary Endometrial	BRCA1, BRCA2, EPCAM, MLH1, MSH2, MSH6, PMS2, POLD1, POLE, PTEN
Hereditary GI (Lynch Syndrome, Gastric, Pancreas, Polyposis)	APC, ATM, BMPR1A, BRCA1, BRCA2, CDH1, CDKN2A, CHEK2, CTNNA1, EPCAM, GREM1, MLH1, MLH3, MSH2, MSH3, MSH6, MUTYH, NTHL1, PALB2, PMS2, POLD1, POLE, PTEN, SDHB, SDHD, SMAD4, STK11, TP53
Lynch Syndrome	EPCAM, MLH1, MSH2, MSH6, PMS2
Gastric	APC, ATM, BRCA1, BRCA2, CDH1, CTNNA1, EPCAM, MLH1, MSH2, MSH6, PALB2, PMS2, SDHB, SDHD, SMAD4, STK11, TP53
Pancreas (Adenocarcinoma)	ATM, BRCA1, BRCA2, CDKN2A, EPCAM, MLH1, MSH2, MSH6, PALB2, PMS2, STK11, TP53
Polyposis	APC, BMPR1A, EPCAM, GREM1, MLH1, MLH3, MSH2, MSH3, MSH6, MUTYH, NTHL1, PMS2, POLD1, POLE, PTEN, SMAD4, STK11, TP53
Familial Gastrointestinal Stromal	KIT, PDGFRA, SDHA, SDHAF2, SDHB, SDHC, SDHD
Familial Melanoma	BAP1, BRCA2, CDK4, CDKN2A, MITF, POT1, PTEN
Familial Renal	BAP1, FH, FLCN, MET, MITF, PTEN, SDHA, SDHAF2, SDHB, SDHC, SDHD, TP53, TSC1, TSC2, VHL
Hereditary Pheochromocytoma and Paraganglioma	FH, MAX, MEN1, NF1, RET, SDHA, SDHAF2, SDHB, SDHC, SDHD, TMEM127, VHL
CNS	APC, EPCAM, LZTR1, MLH1, MSH2, MSH6, NF1, NF2, PMS2, POLE, POT1, PTCH1, PTEN, SMARCB1, SMARCE1, SUFU, TP53, TSC1, TSC2, VHL
Soft Tissue	APC, ATM, BRCA1, BRCA2, CHEK2, EPCAM, MLH1, MSH2, MSH6, NF1, PMS2, TP53
Ashkenazi Jewish Panel	APC (c.3920T>A), BRCA1 (c.68_69del; c.5266dup), BRCA2 (c.5946del), GREM1 (40 kb upstream dup)
AXIN2-related Attenuated Familial Adenomatous Polyposis	AXIN2
BAP1 Tumour Predisposition Syndrome	BAP1
Birt-Hogg-Dube Syndrome	FLCN
Carney Complex	PRKAR1A
CHRPE, CMV Thyroid, Desmoid	APC, MUTYH
DICER-associated Syndrome	DICER1
Dysplastic Nevus Syndrome	CDK4, CDKN2A
Familial Isolated Pituitary Adenoma	AIP
Hereditary Hyperparathyroidism	CDC73, MEN1
Hereditary Leiomyomatosis and Renal Cell Cancer	FH

Hereditary Lung Cancer	EGFR (T790M; V834I; V769M)
Li-Fraumeni Syndrome	TP53
MEN1 Syndrome	MEN1, CDKN1B
Multiple Endocrine Neoplasia Type 2	RET
Neurofibromatosis, type 1	NF1
Nevoid Basal Cell Carcinoma Syndrome/ Gorlin Syndrome	PTCH1, SUFU
Nijmegen Breakage Syndrome	NBN
Peutz-Jeghers Syndrome	STK11
PTEN Hamartoma Tumour Syndrome	PTEN
Rare Polyposis Genes	GALNT12, RPS20
Retinoblastoma	RB1
Rhabdoid Predisposition Syndrome	SMARCA4, SMARCB1
Schwannomatosis	NF2, LZTR1, SMARCB1
Sessile Serrated Polyposis Cancer Syndrome	RNF43
Small Cell Carcinoma of the Ovary, Hypercalcemic Type (SCCOHT)	SMARCA4
Tuberous Sclerosis	TSC1, TSC2
Von Hippel-Lindau Syndrome	VHL