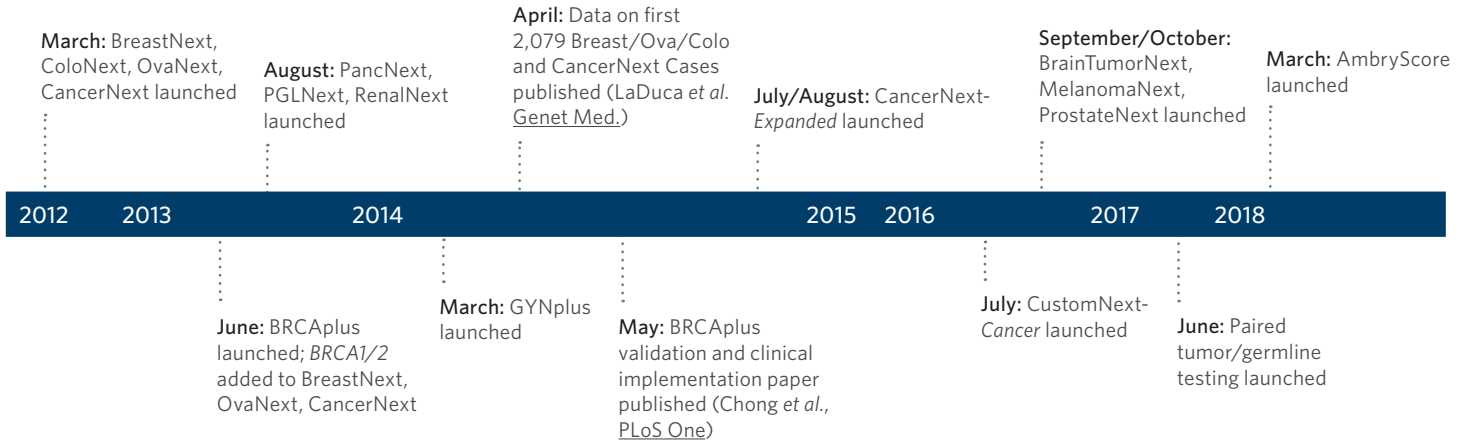


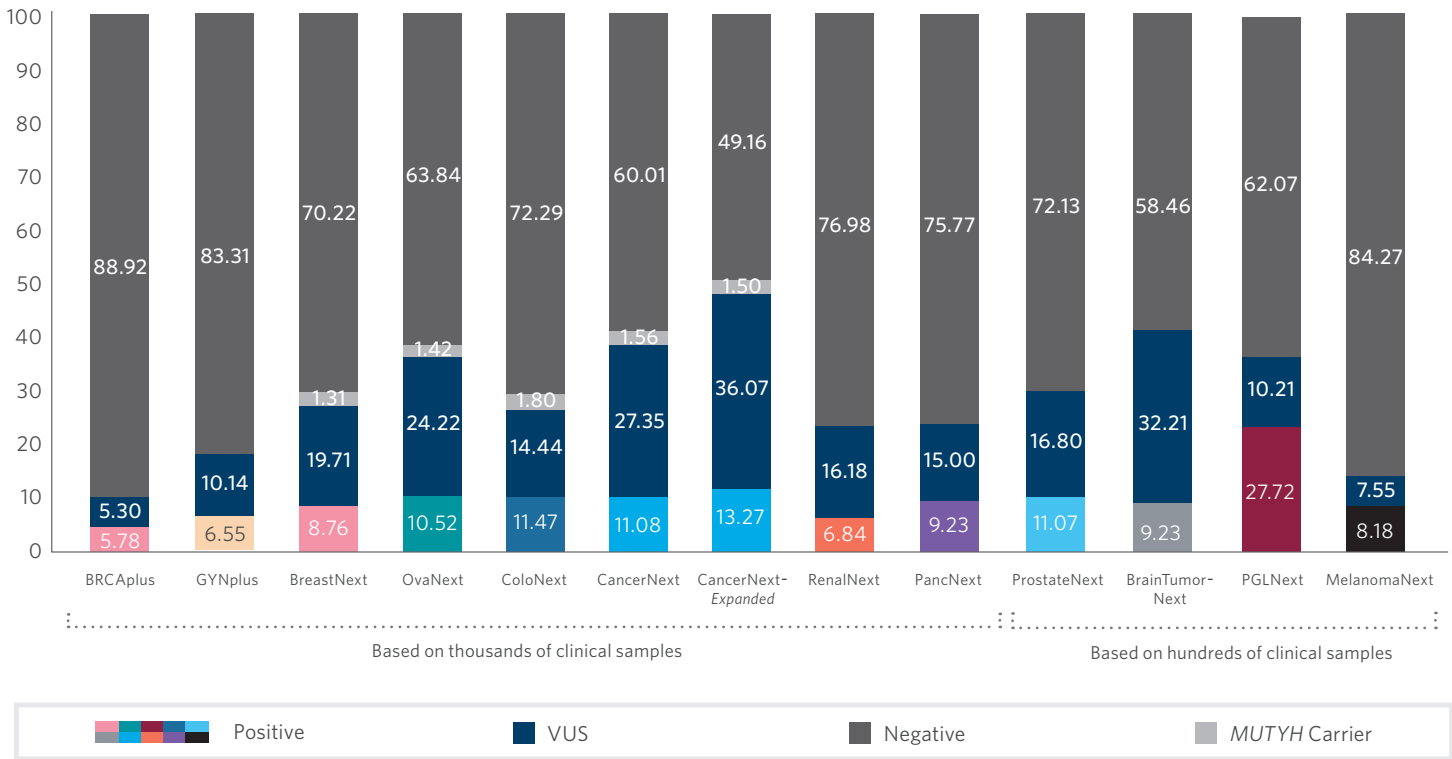
# Hereditary Cancer Panels

WHITE PAPER August 2018



## Hereditary Cancer Panel Experience

UNDERSTANDING DISEASE BETTER THROUGH DATA SHARING AND TRANSPARENCY



BRCA1 and BRCA2 VUS Rate: 3.33%

# Hereditary Cancer Multigene Panels

BRCAplus 8 genes	BreastNext 17 genes	GYNplus 13 genes	OvaNext 25 genes	ColoNext 17 genes	ProstateNext 14 genes	PancNext 13 genes	CancerNext 34 genes	BrainTumorNext 27 genes	MelanomaNext 8 genes	RenalNext 19 genes	PGINext 12 genes	CancerNext-Exp 67 genes	CustomNext-Cancer up to 81 genes
	BARD1		BARD1				BARD1					BARD1	BARD1
	BRIP1	BRIP1	BRIP1				BRIP1					BRIP1	BRIP1
	MRE11A		MRE11A				MRE11A					MRE11A	MRE11A
	NBN		NBN		NBN		NBN	NBN				NBN	NBN
	NFI		NFI				NFI	NFI				NFI	NFI
	RAD50		RAD50				RAD50					RAD50	RAD50
	RAD51C		RAD51C				RAD51C					RAD51C	RAD51C
	RAD51D		RAD51D		RAD51D		RAD51D					RAD51D	RAD51D
ATM	ATM		ATM		ATM	ATM	ATM					ATM	ATM
PALB2	PALB2	PALB2	PALB2		PALB2	PALB2	PALB2					PALB2	PALB2
CHEK2	MUTYH CHEK2		MUTYH CHEK2		CHEK2		MUTYH CHEK2					MUTYH CHEK2	MUTYH CHEK2
CDHI	STK11 CDHI		STK11 CDHI			STK11	STK11					STK11	STK11
BRCA1	BRCA1	BRCA1	BRCA1		BRCA1	BRCA1	BRCA1		BRCA2			BRCA1	BRCA1
BRCA2	BRCA2	BRCA2	BRCA2		BRCA2	BRCA2	BRCA2		BRCA2			BRCA2	BRCA2
PTEN	PTEN	PTEN	PTEN				PTEN	PTEN	PTEN	PTEN		PTEN	PTEN
TP53	TP53	TP53	TP53		TP53	TP53	TP53	TP53	TP53	TP53		TP53	TP53
	MLH1	MLH1	MLH1		MLH1	MLH1	MLH1	MLH1		MLH1		MLH1	MLH1
	MSH2	MSH2	MSH2		MSH2	MSH2	MSH2	MSH2		MSH2		MSH2	MSH2
	MSH6	MSH6	MSH6		MSH6	MSH6	MSH6	MSH6		MSH6		MSH6	MSH6
	PMS2	PMS2	PMS2		PMS2	PMS2	PMS2	PMS2		PMS2		PMS2	PMS2
	EPCAM	EPCAM	EPCAM		EPCAM	EPCAM	EPCAM	EPCAM		EPCAM		EPCAM	EPCAM
	SMARCA4		SMARCA4			APC	SMARCA4	SMARCA4				SMARCA4	SMARCA4
	APC		APC	APC		APC	APC	APC				APC	APC
	BMP1RIA		BMP1RIA				BMP1RIA					BMP1RIA	BMP1RIA
	SMAD4		SMAD4				SMAD4					SMAD4	SMAD4
	CDKN2A		CDKN2A			CDKN2A	CDKN2A	CDKN2A	CDKN2A	CDKN2A		CDKN2A	CDKN2A
	CDK4		CDK4				CDK4	CDK4	CDK4	CDK4		CDK4	CDK4
	GREM1		GREM1				GREM1					GREM1	GREM1
	POLD1		POLD1				POLD1					POLD1	POLD1
	POLE		POLE				POLE					POLE	POLE
	HOXB13		DICER1		HOXB13		HOXB13					HOXB13	HOXB13
	DICER1		DICER1				DICER1	DICER1				DICER1	DICER1
	BAP1							BAP1	BAP1	BAP1		BAP1	BAP1
	FLCN							FLCN	FLCN	FLCN		FLCN	FLCN
	MET							MET	MET	MET		MET	MET
	MITF							MITF	MITF	MITF		MITF	MITF
	TSC1							TSC1	TSC1	TSC1		TSC1	TSC1
	TSC2							TSC2	TSC2	TSC2		TSC2	TSC2
	VHL							VHL	VHL	VHL	VHL	VHL	VHL
	FH							FH	FH	FH	FH	FH	FH
	SDHA							SDHA	SDHA	SDHA	SDHA	SDHA	SDHA
	SDHB							SDHB	SDHB	SDHB	SDHB	SDHB	SDHB
	SDHC							SDHC	SDHC	SDHC	SDHC	SDHC	SDHC
	SDHD							SDHD	SDHD	SDHD	SDHD	SDHD	SDHD
	SDHAF2							SDHAF2	SDHAF2	SDHAF2	SDHAF2	SDHAF2	SDHAF2
	MAX							MAX	MAX	MAX	MAX	MAX	MAX
	RET							RET	RET	RET	RET	RET	RET
	TMEM127							TMEM127	TMEM127	TMEM127	TMEM127	TMEM127	TMEM127
	MEN1							MEN1	MEN1	MEN1	MEN1	MEN1	MEN1
	AIP							AIP	AIP	AIP	AIP	AIP	AIP
	ALK							ALK	ALK	ALK	ALK	ALK	ALK
	CDKN1B							CDKN1B	CDKN1B	CDKN1B	CDKN1B	CDKN1B	CDKN1B
	NF2							NF2	NF2	NF2	NF2	NF2	NF2
	PHOX2B							PHOX2B	PHOX2B	PHOX2B	PHOX2B	PHOX2B	PHOX2B
	POT1							POT1	POT1	POT1	POT1	POT1	POT1
	PRKARIA							PRKARIA	PRKARIA	PRKARIA	PRKARIA	PRKARIA	PRKARIA
	PTCH1							PTCH1	PTCH1	PTCH1	PTCH1	PTCH1	PTCH1
	SMARCB1							SMARCB1	SMARCB1	SMARCB1	SMARCB1	SMARCB1	SMARCB1
	SMARCE1							SMARCE1	SMARCE1	SMARCE1	SMARCE1	SMARCE1	SMARCE1
	SUFU							SUFU	SUFU	SUFU	SUFU	SUFU	SUFU
	RB1							RB1	RB1	RB1	RB1	RB1	RB1
	XRCC2							XRCC2	XRCC2	XRCC2	XRCC2	XRCC2	XRCC2
	BLM							BLM	BLM	BLM	BLM	BLM	BLM
	FANCC							FANCC	FANCC	FANCC	FANCC	FANCC	FANCC
	GALNT12							GALNT12	GALNT12	GALNT12	GALNT12	GALNT12	GALNT12
	AXIN2							AXIN2	AXIN2	AXIN2	AXIN2	AXIN2	AXIN2
	CDC73							CDC73	CDC73	CDC73	CDC73	CDC73	CDC73
	CTNNA1							CTNNA1	CTNNA1	CTNNA1	CTNNA1	CTNNA1	CTNNA1
	EGFR							EGFR	EGFR	EGFR	EGFR	EGFR	EGFR
	KIT							KIT	KIT	KIT	KIT	KIT	KIT
	MSH3							MSH3	MSH3	MSH3	MSH3	MSH3	MSH3
	NTHL1							NTHL1	NTHL1	NTHL1	NTHL1	NTHL1	NTHL1
	Pancreatitis genes**							Pancreatitis genes**	Pancreatitis genes**	Pancreatitis genes**	Pancreatitis genes**	Pancreatitis genes**	Pancreatitis genes**
	PDGFRA							PDGFRA	PDGFRA	PDGFRA	PDGFRA	PDGFRA	PDGFRA

AVERAGE TAT\*

8.2	10.2	11.6	11.5	12.4	11.8	11.9	11.5	12.3	11.1	11.6	11.2	13.0	12.1
-----	------	------	------	------	------	------	------	------	------	------	------	------	------

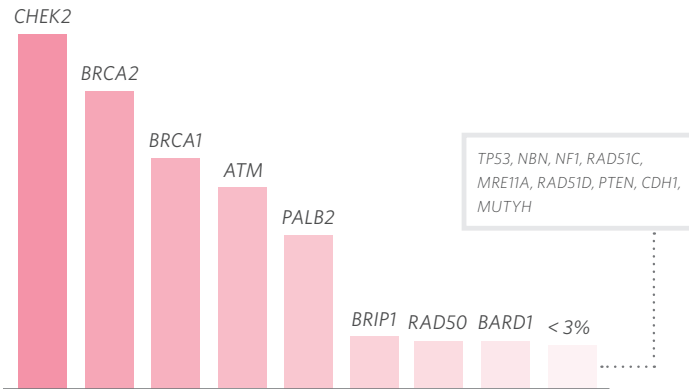
\* Calendar days. Amby's turnaround time represents the time that it takes for Amby to perform the requested testing. When all necessary clinical and family history information is provided with the sample, results are typically completed within 14 days. We will notify you in the unusual event that results will take longer than 21 days.

\*\* CASR, CPA1, CFTR, CTRC, PRSS1, SPINK1

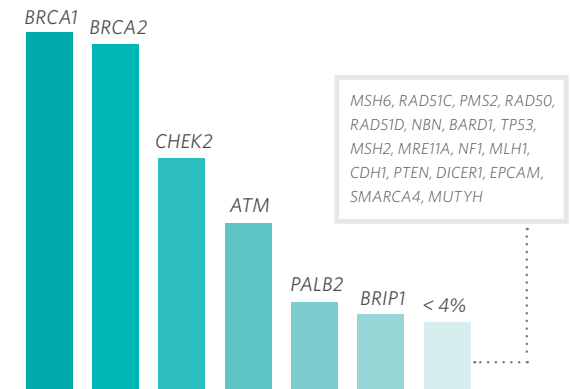
# Mutation Distributions

ORDERING THE RIGHT TEST CAN PROVIDE THE MOST ACCURATE AND COMPREHENSIVE ANSWERS

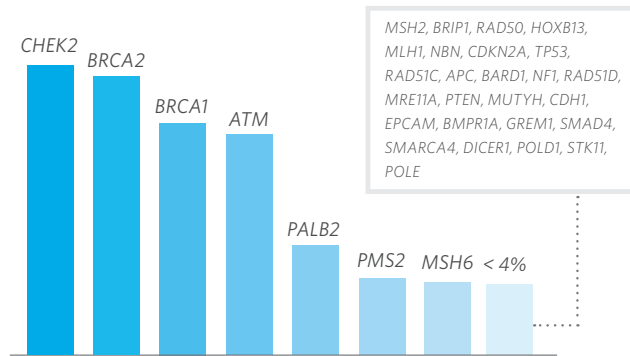
BreastNext\*



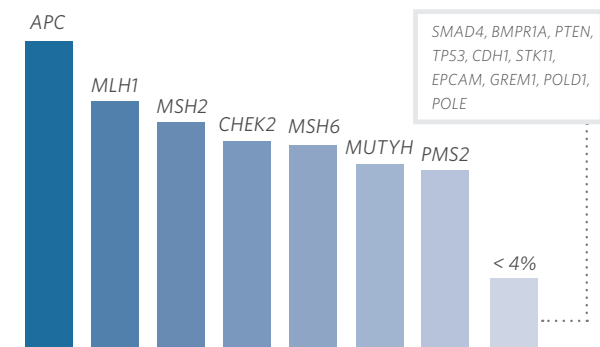
OvaNext\*



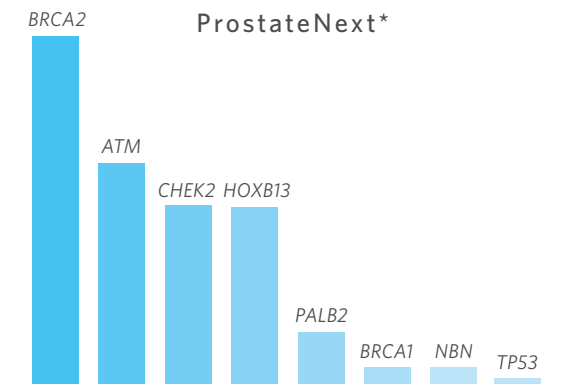
CancerNext\*



ColoNext\*



ProstateNext\*



Our ongoing participation in numerous research studies and collaborations is so that we can better assess clinical validity of gene-disease relationships. For more information about our research visit: [ambrygen.com/research-and-collaborations](http://ambrygen.com/research-and-collaborations)

Mutation distribution data for our other hereditary cancer panels is available upon request.

\* Excludes MUTYH carriers, APC p.I1307K, and/or CHEK2 p.I157T depending on the genes included in the panel