



Bedeutung von Tumormutationen verstehen (MTB)

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Philipps-Universität Marburg
GBG ASM 2025, **7.3.2025**



- Advisory board, honoraria: Daiichi Sankyo, Astra Zeneca, Biontech
- Licensing fees: VMscope digital pathology software
- Research funding: Myriad

Molekulare Therapieoptionen beim Mammakarzinom

Immunhistologische
Standarddiagnostik

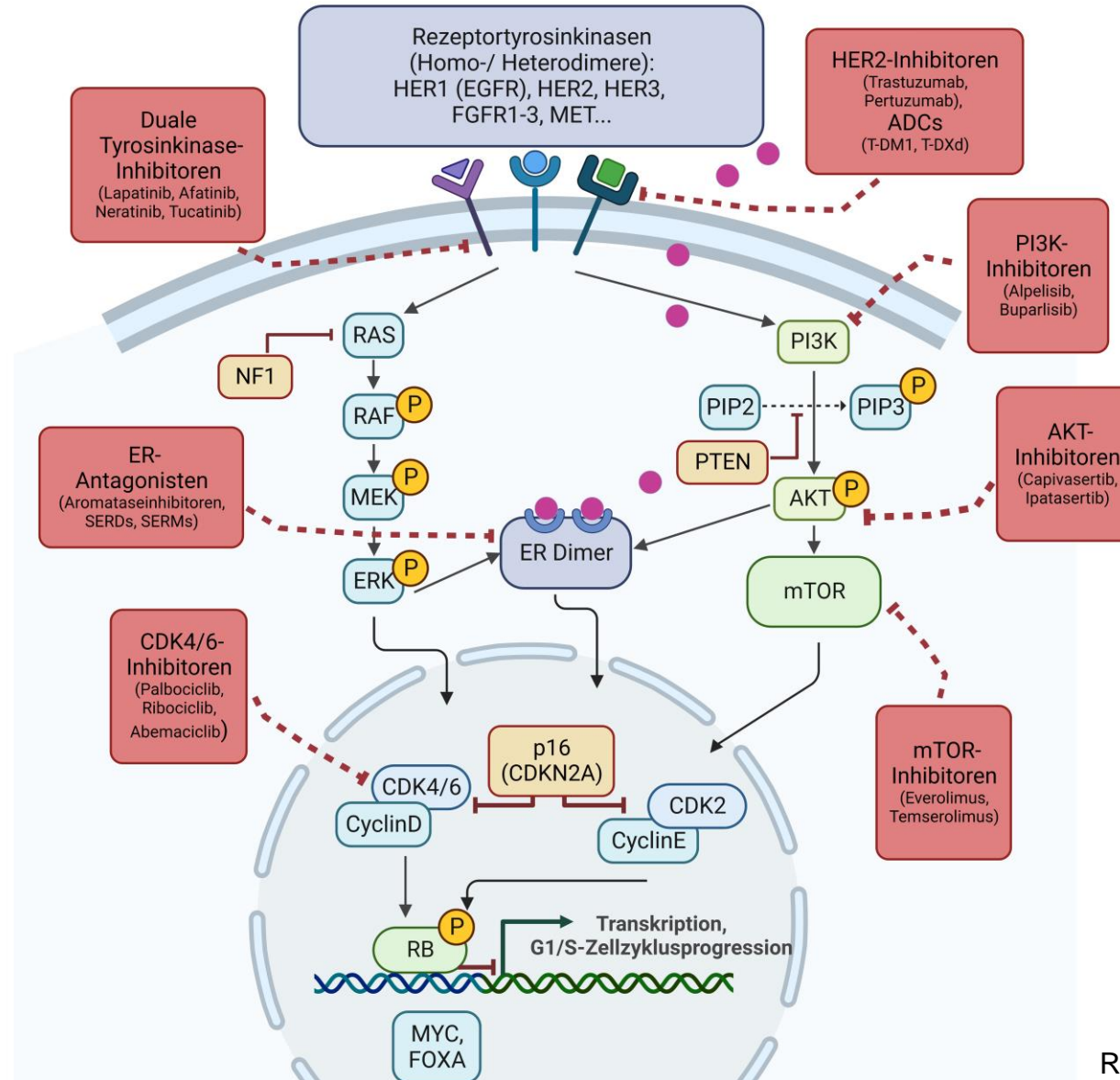
ER, PR, HER2

Ki67
↓
Genexpressions-
tests

PD-L1

HER2, HER2low,
HER2 ultralow

MSI
NTRK



Rodepeter et al. Die Pathologie 2023

Molekulare Therapieoptionen beim Mammakarzinom

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Immunhistologische
Standarddiagnostik

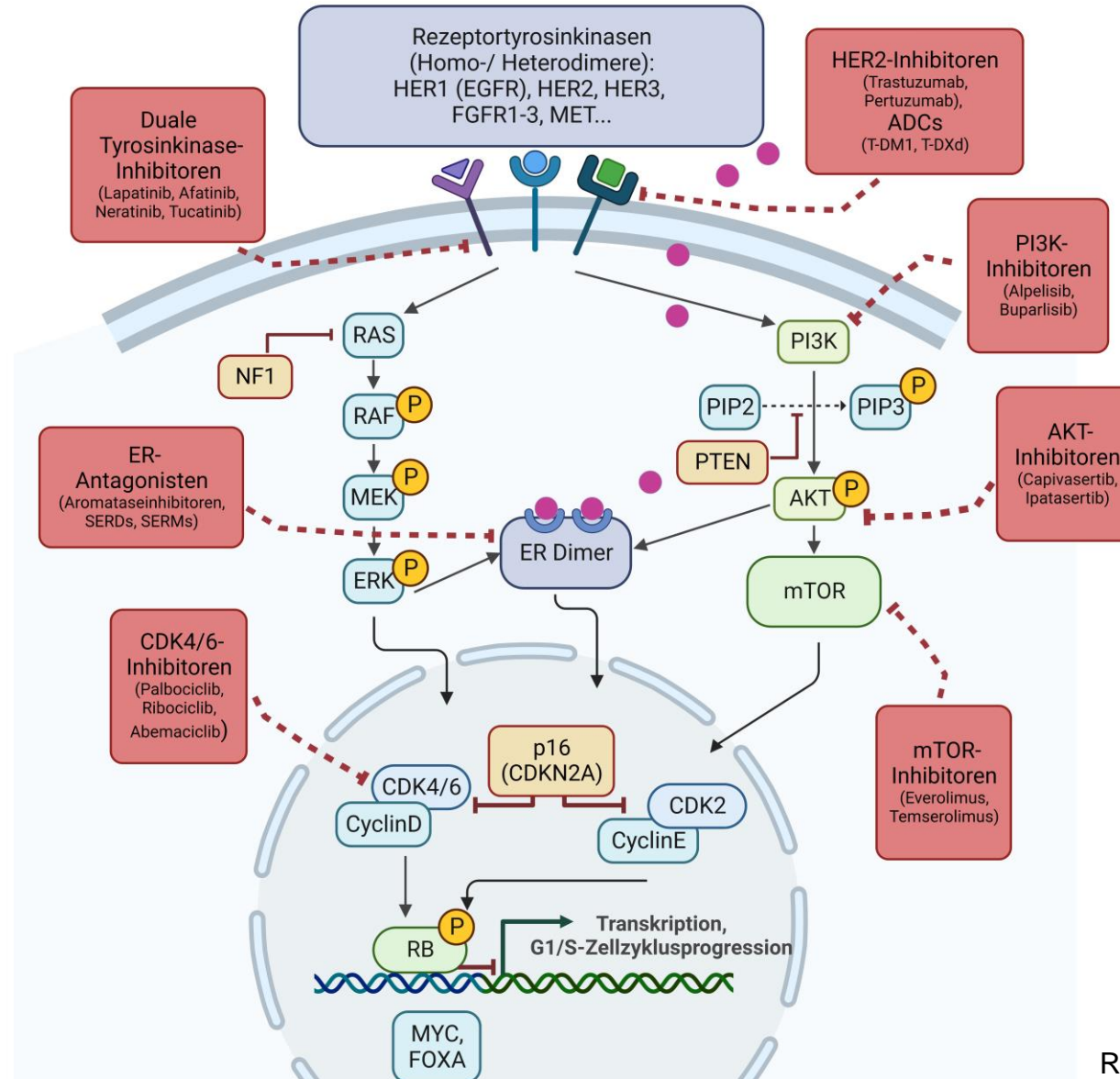
ER, PR, HER2

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tests

PD-L1

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MSI
NTRK



Molekulare
Standarddiagnostik

PIK3CA-Mutationen

AKT-Mutationen

BRCA1,2-Mutationen

ESR1 Mutationen

Molekulares
Tumorboard (MTB)

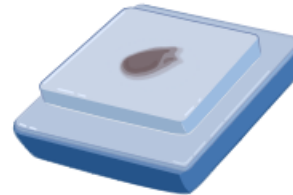
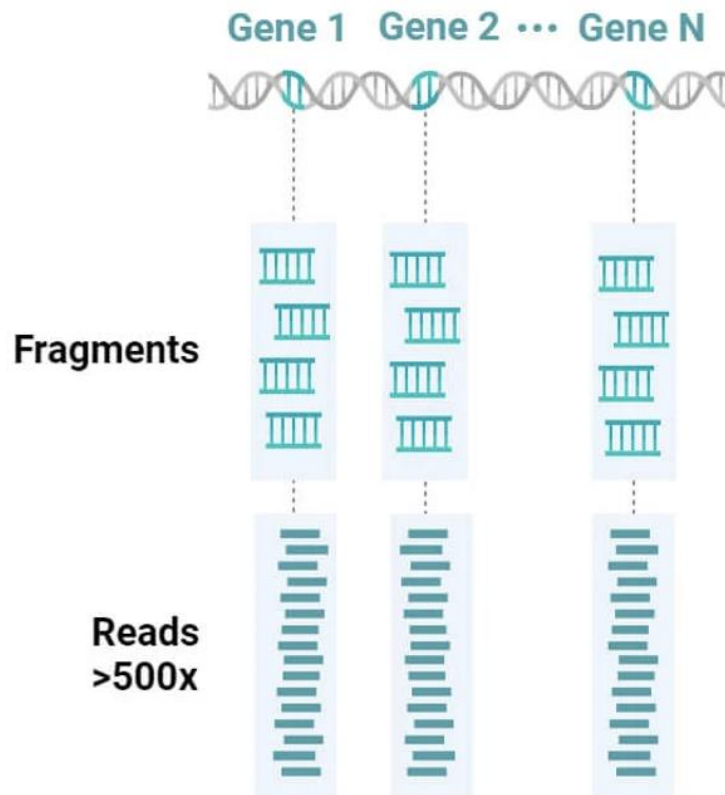
erweiterte
Mutationsdiagnostik
(MTB)

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Wie lassen sich Tumormutationen messen?

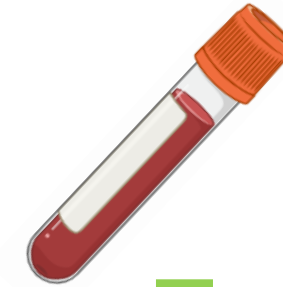
NGS Panel Sequencing als Standardmethode

NGS Panel sequencing
30 bis 500 Gene; 0.05% der DNA



Somatische Testung
(=Tumormutationsanalyse)
Pathologie
Bei Panel-NGS:
keine Unterscheidung zwischen
Tumor- und Keimbahnmutationen;
alle Mutationen werden berichtet

oder



Liquid biopsy (ctDNA im Plasma)
Spezielle Probenröhrchen
(=Tumormutationsanalyse)
Pathologie

oder

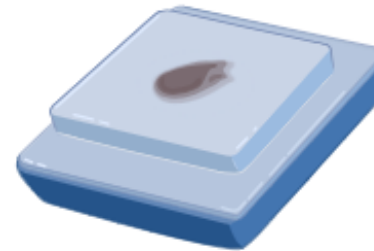
Blutzellen (Keimbahntestung)
Humangenetik
(nur Keimbahnmutationen)

Whole exome sequencing (WES): alle 21.000 Gene

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Whole Exome Sequencing
(und Whole Genome Sequ.)



und



beide Proben werden benötigt

Zwei separate Sequenzierungen (Tumor und Normalgewebe)

Somatische Testung
(=Tumormutationsanalyse)
Pathologie
*Bei WES/WGS:
ohne Keimbahnveränderungen*

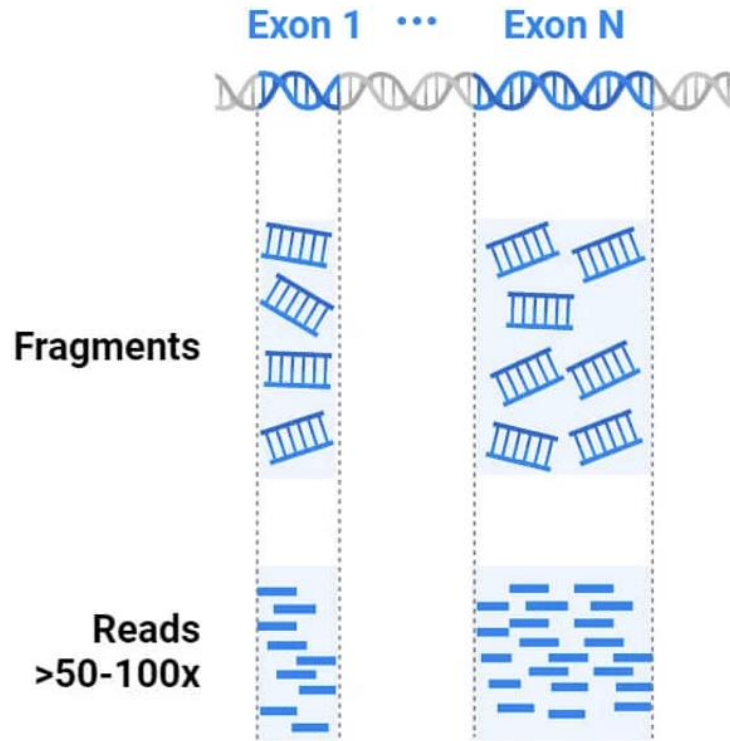
Blutzellen
(Keimbahntestung)
Humangenetik
*zusätzliche Keimbahnveränderungen
(evtl. auch therapeutisch relevant)*

Gesetz zur Weiterentwicklung der Gesundheitsversorgung 19.7.2021

Gesundheitsversorgungsweiterentwicklungsgesetz (GVWG)



**Modellvorhaben
Genomsequenzierung**





Klinische Indikationsstellung

1. fortgeschrittene oder prognostisch ungünstige onkologische Erkrankung oder seltener Tu. ohne Standard-Tx
2. Pat. ist grundsätzlich für systemische Therapie geeignet.
3. Zwei klinische Situationen:
 - a) zugelassene Therapien mit molekularer Testung kommen in Frage (**Ziel: companion diagnostic**) – **Bestandteil der Organtumorkonferenz**
 - b) Die Standardtherapien ohne Aussicht auf Verlängerung des Überlebens (**Ziel: individualisierte Therapie bei mol. Target**)

Molekulare
Standarddiagnostik

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AKT-Mutationen

BRCA1,2-Mutationen

ESR1 Mutationen

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Tumorboard (MTB)

erweiterte
Mutationsdiagnostik
(MTB)

**Zertifiziertes Zentrum
für Personalisierte
Medizin - Onkologie**

DKG
KREBSGESELLSCHAFT

- Spezialisierte Diagnostik
- DNPM-Standards
- Kooperationspartner für onkologischen Zentren

Bundesinstitut
für Arzneimittel
und Medizinprodukte

Spitzenverband

genomDE

**Modellvorhaben
Genomsequenzierung**



Indikationsstellung für personalisierte Onkologie im Gesundheitssystem:

- 1) kein NGS über DRGs möglich
- 2) ambulante Optionen:
 - a) NGS aus Praxis/MVZ über Patho-MVZ mit Überweisungsschein
 - b) NGS über ASV (Beitritt der Pathologie zur ASV für Molpatho-Tests; formaler Akt, ca. 4 Wochen; danach ASV-Ü-Schein möglich)

3) NEU: Modellvorhaben GenomSeq

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GKV
Spitzenverband

genomDE

**Modellvorhaben
Genomsequenzierung**

Ablauf personalisierte Diagnostik im molekularen Tumorboard

klinische Interpretation immer im Gesamtkontext

GUIDE

Indikationsstellung im Organ-Tumorboard



Auswahl FFPE Gewebe:

- die neueste Tumorprobe
- ESR1: Proben nach Therapie
- ggf. neue Biopsie
- NGS geeignet



Molekularpathologie

- NGS-Sequencing

Archer/IDT Complete Solid Tumor Panel, Illumina NGS (NovaSeq)

430 genes, MSI, TMB
(breast, colorectal, gastric, pancreatic, lung, melanoma, CNS, and others)

AKT1	BRAF	EGFR	ERBB2	FOXO3	GNAS1	GNAS	HRAS	NRAS	PIK3CA	PTEN	TP53	WT1
CDKN2A	CDKN2B	CDKN2C	CDKN3	CDKN4	CDKN5	CDKN6	CDKN7	CDKN8	CDKN9	CDKN10	CDKN11	CDKN12
CDKN13	CDKN14	CDKN15	CDKN16	CDKN17	CDKN18	CDKN19	CDKN20	CDKN21	CDKN22	CDKN23	CDKN24	CDKN25
CDKN26	CDKN27	CDKN28	CDKN29	CDKN30	CDKN31	CDKN32	CDKN33	CDKN34	CDKN35	CDKN36	CDKN37	CDKN38
CDKN39	CDKN40	CDKN41	CDKN42	CDKN43	CDKN44	CDKN45	CDKN46	CDKN47	CDKN48	CDKN49	CDKN50	CDKN51
CDKN52	CDKN53	CDKN54	CDKN55	CDKN56	CDKN57	CDKN58	CDKN59	CDKN60	CDKN61	CDKN62	CDKN63	CDKN64
CDKN65	CDKN66	CDKN67	CDKN68	CDKN69	CDKN70	CDKN71	CDKN72	CDKN73	CDKN74	CDKN75	CDKN76	CDKN77
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Patient ID Demo_NSCLC_TSO-001
Case ID EU009700
Age 56
ICD-10 code C34.31

PATIENT

Patient ID Demo_NSCLC_TSO-001
Case ID EU009700
Age 56
Sex Male
Country DE
Diagnosis Lung cancer

SAMPLE

MMR status Stable
HER2 status n/a
PD-L1 TPS(%), ICS(%), CPS (0-100)
Metastatic Yes
Tumor Cellularity 87%
NGS ID H-0005
FFPE block 12345

ORDER & REPORT

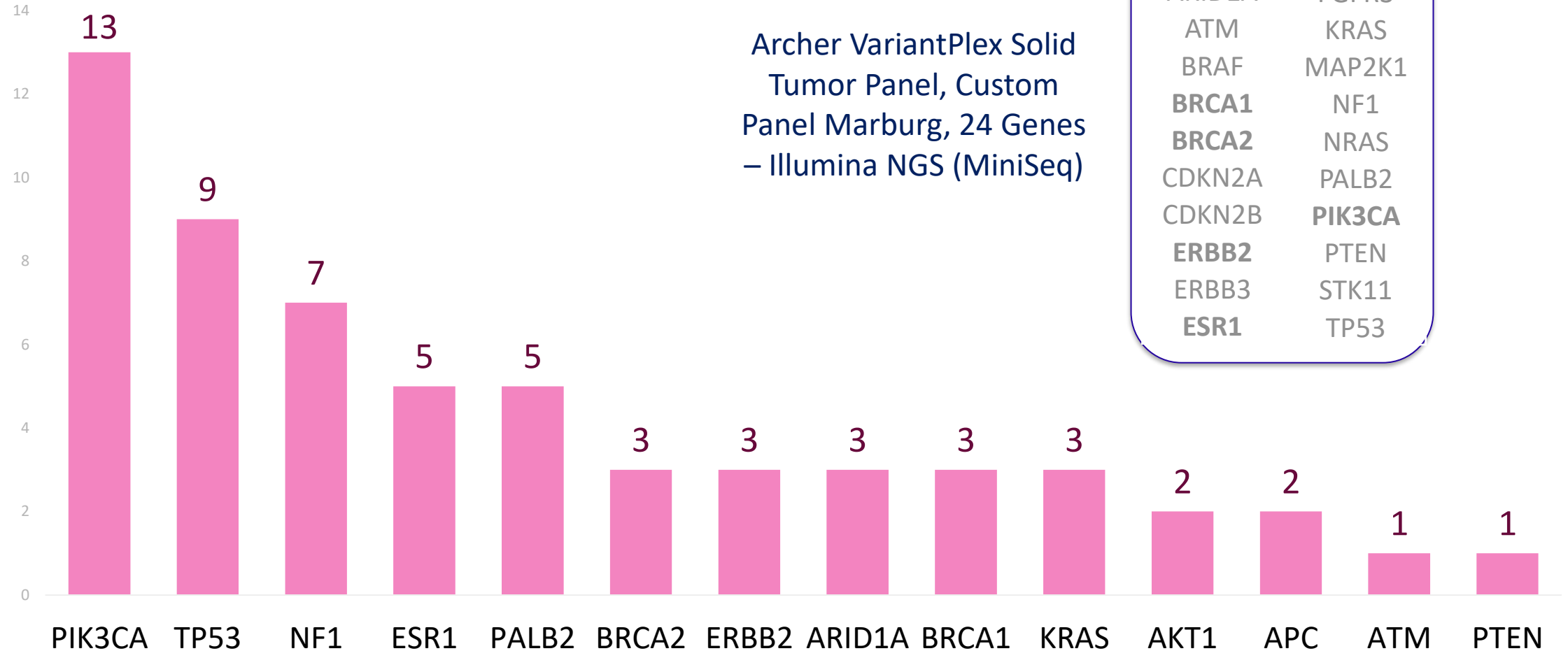
Ordered by Elisabeth Ryan
Facility Sunnyville Hospital
Labtest VCF Illumina TSO500 Panel (unpaired)
Order date 06 Feb 2023
Signed by Dr. Lenka Kyjácova
Signed on 03 Nov 2023
Version 17

SUMMARY OF GENOMIC AND BIOMARKER FINDINGS

Detected biomarkers with therapy implications:

BIOMARKER	VAF (%)	APPROVED TREATMENTS FOR PATIENT DISEASE	BIOMARKER SCORE	TRIALS	OTHER TREATMENTS	DRUG APPROVAL	BIOMARKER SCORE	TRIALS
EGFR p.E746_A750del	29.52	E Osimertinib	EMA FDA	6	E Aumolertinib	Investigational		0
		E Erlotinib	EMA FDA	0	E Alflutininib	Other		0
		E Ramucirumab			E Nazartinib	Other		1
EGFR p.T790M	29.46	E Osimertinib	EMA FDA	6	E Aumolertinib	Investigational	N/S	0
		I Afatinib		-	E Alflutininib	Other	N/S	0
		I Dacomitinib		-	E Nazartinib	Other		1
		I Erlotinib		-				

GBG MTB – Part 1 (PADMA, AMICA, Desiree)



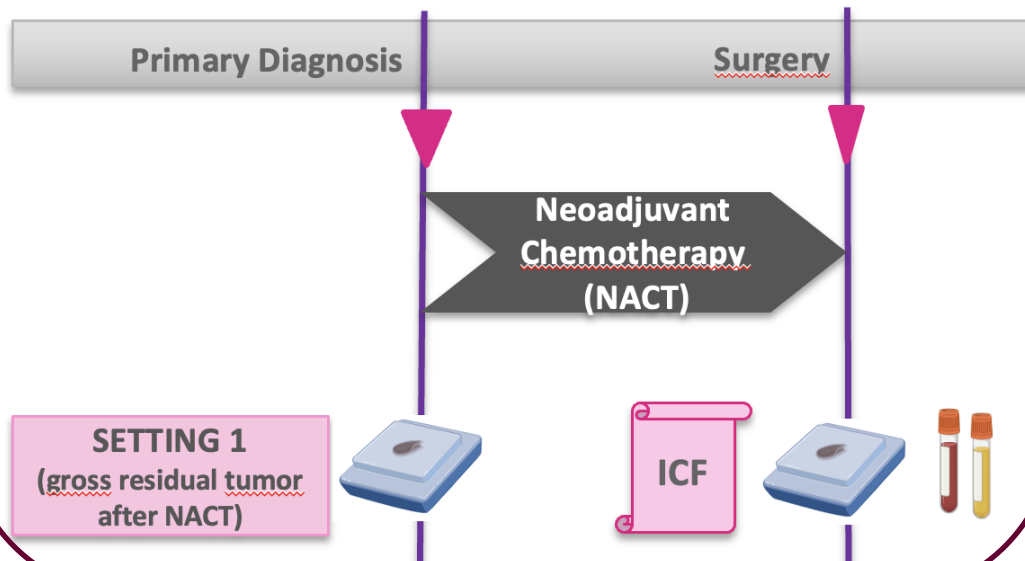
AKT1	FGFR1
APC	FGFR2
ARID1A	FGFR3
ATM	KRAS
BRAF	MAP2K1
BRCA1	NF1
BRCA2	NRAS
CDKN2A	PALB2
CDKN2B	PIK3CA
ERBB2	PTEN
ERBB3	STK11
ESR1	TP53

Variants detected in samples from Desiree trial

GBG 108 – MOMENTUM

Molecular Mechanisms of Therapy resistant breast cancer

Prospective, non-interventional Registry trial with integrated biomaterial collection



Institut
für Pathologie

UKGM
UNIVERSITÄTSKLINIKUM
MARBURG

uct Universitäres Centrum
für Tumorerkrankungen
Frankfurt – Marburg University Cancer Center

Patient ID	Demo_NSCLC_TSO-001
Case ID	EU009700
Age	56

ICD-10 code C34.31

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(breast, colorectal, gastric,
pancreatic, lung, melanoma,
CNS, and others)

SUMMARY OF GENOMIC AND BIOMARKER

Detected biomarkers with therapy

[illegible]

Momentum NGS Profiling

VARIANT	CODING DNA	TYPE AND EFFECT	VAF (%)	CLASSIFICATION
BRCA1 p.S1042fs	ENST00000357654.3 c.3126del	del Frameshift	5.98	Pathogenic
TP53 p.F134V	ENST00000269305.4 c.400T>G	SNV Missense	6.69	Pathogenic

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TMB-L 0.11 mut/Mb	-	No therapies or clinical trials related to this biomarker					
MS-stable	-	No therapies or clinical trials related to this biomarker					
BRCA1 p.S1042fs exon 10 of 23	5.98	E Olaparib	IA	7 EMA FDA	E Rucaparib	Off-label	I
		E Talazoparib	IA	7 EMA FDA	E PARP inhibitors	Other	n
TP53 p.F134V exon 5 of 11	6.69	No approved therapy identified for the patient disease			E Bevacizumab	Approved	n
					E Adavosertib	Other	n
					E Coti-2	Other	n
					E VEGFR inhibitors	Other	n
					E Wee1 inhibitors	Other	n
					I Platinum-based agents	Other	n
					I Taxane-based agents	Other	n
Additional biomarkers [#]		Diagnostic: TP53 p.F134V (IB, 6)					

E Effective: potentially effective treatments
I Ineffective: potentially ineffective treatments

Biomarker score: AMP/ASCO/CAP category and CVI score. See information.

[#] See Biomarker details section for more information.

BIOMARKER	VAF (%)	APPROVED TREATMENTS FOR PATIENT DISEASE	BIOMARKER SCORE	TRIALS
TMB-L 0.11 mut/Mb	-	No therapies or clinical trials related to this biomarker		
MS-stable	-	No therapies or clinical trials related to this biomarker		
BRCA1 p.S1042fs exon 10 of 23	5.98	E Olaparib	IA	7 EMA FDA
		E Talazoparib	IA	7 EMA FDA

I-A

m1A²

EMA
FDA

Biomarker approved by: EMA, FDA

ESCAT I-A (Ready for routine use)

The biomarker classification is based on the "ESMO Scale for Clinical Actionability of molecular Targets (ESCAT)" (2018)

- I-A:** Clinically relevant improvement of survival endpoint, in specific tumor type, in prospective randomized clinical trials
- I-B:** Clinically relevant improvement as defined by ESMO MCBS 1.1, in specific tumor type, in prospective non-randomized clinical trials

MOMENTUM and COGNITION-GUIDE

GBG 108 – MOMENTUM

Molecular Mechanisms of Therapy resistant breast cancer
Prospective, non-interventional Registry trial with integrated biomaterial collection



430 genes, MSI, TMB
(breast, colorectal, gastric,
pancreatic, lung, melanoma,
CNS, and others)

AKT1	BRIP1	EGFR	ERBB2	FGFR2	GNA11	GNA12	GNA13	HR23	CDKN1A	CDKN1B	CDKN1C	CDKN1D	CDKN1E	CDKN1F	CDKN1G	CDKN1H	CDKN1I	CDKN1J	CDKN1K	CDKN1L	CDKN1M	CDKN1N	CDKN1O	CDKN1P	CDKN1Q	CDKN1R	CDKN1S	CDKN1T	CDKN1U	CDKN1V	CDKN1W	CDKN1X	CDKN1Y	CDKN1Z	CDKN1AA	CDKN1AB	CDKN1AC	CDKN1AD	CDKN1AE	CDKN1AF	CDKN1AG	CDKN1AH	CDKN1AI	CDKN1AJ	CDKN1AK	CDKN1AL	CDKN1AM	CDKN1AN	CDKN1AO	CDKN1AP	CDKN1AQ	CDKN1AR	CDKN1AS	CDKN1AT	CDKN1AU	CDKN1AV	CDKN1AW	CDKN1AX	CDKN1AY	CDKN1AZ	CDKN1BA	CDKN1BB	CDKN1BC	CDKN1BD	CDKN1BE	CDKN1BF	CDKN1BG	CDKN1BH	CDKN1BI	CDKN1BJ	CDKN1BK	CDKN1BL	CDKN1BM	CDKN1BN	CDKN1BO	CDKN1BP	CDKN1BQ	CDKN1BR	CDKN1BS	CDKN1BT	CDKN1BU	CDKN1BV	CDKN1BW	CDKN1BX	CDKN1BY	CDKN1BZ	CDKN1CA	CDKN1CB	CDKN1CC	CDKN1CD	CDKN1CE	CDKN1CF	CDKN1CG	CDKN1CH	CDKN1CI	CDKN1CJ	CDKN1CK	CDKN1CL	CDKN1CM	CDKN1CN	CDKN1CO	CDKN1CP	CDKN1CQ	CDKN1CR	CDKN1CS	CDKN1CT	CDKN1CU	CDKN1CV	CDKN1CW	CDKN1CX	CDKN1CY	CDKN1CZ	CDKN1DA	CDKN1DB	CDKN1DC	CDKN1DD	CDKN1DE	CDKN1DF	CDKN1DG	CDKN1DH	CDKN1DI	CDKN1DJ	CDKN1DK	CDKN1DL	CDKN1DM	CDKN1DN	CDKN1DO	CDKN1DP	CDKN1DQ	CDKN1DR	CDKN1DS	CDKN1DT	CDKN1DU	CDKN1DV	CDKN1DW	CDKN1DX	CDKN1DY	CDKN1DZ	CDKN1EA	CDKN1EB	CDKN1EC	CDKN1ED	CDKN1EE	CDKN1EF	CDKN1EG	CDKN1EH	CDKN1EI	CDKN1EJ	CDKN1EK	CDKN1EL	CDKN1EM	CDKN1EN	CDKN1EO	CDKN1EP	CDKN1EQ	CDKN1ER	CDKN1ES	CDKN1ET	CDKN1EU	CDKN1EV	CDKN1EW	CDKN1EX	CDKN1EY	CDKN1EZ	CDKN1FA	CDKN1FB	CDKN1FC	CDKN1FD	CDKN1FE	CDKN1FF	CDKN1FG	CDKN1FH	CDKN1FI	CDKN1FJ	CDKN1FK	CDKN1FL	CDKN1FM	CDKN1FN	CDKN1FO	CDKN1FP	CDKN1FQ	CDKN1FR	CDKN1FS	CDKN1FT	CDKN1FU	CDKN1FV	CDKN1FW	CDKN1FX	CDKN1FY	CDKN1FZ	CDKN1GA	CDKN1GB	CDKN1GC	CDKN1GD	CDKN1GE	CDKN1GF	CDKN1GG	CDKN1GH	CDKN1GI	CDKN1GJ	CDKN1GK	CDKN1GL	CDKN1GM	CDKN1GN	CDKN1GO	CDKN1GP	CDKN1GQ	CDKN1GR	CDKN1GS	CDKN1GT	CDKN1GU	CDKN1GV	CDKN1GW	CDKN1GX	CDKN1GY	CDKN1GZ	CDKN1HA	CDKN1HB	CDKN1HC	CDKN1HD	CDKN1HE	CDKN1HF	CDKN1HG	CDKN1HH	CDKN1HI	CDKN1HJ	CDKN1HK	CDKN1HL	CDKN1HM	CDKN1HN	CDKN1HO	CDKN1HP	CDKN1HQ	CDKN1HR	CDKN1HS	CDKN1HT	CDKN1HU	CDKN1HV	CDKN1HW	CDKN1HX	CDKN1HY	CDKN1HZ	CDKN1IA	CDKN1IB	CDKN1IC	CDKN1ID	CDKN1IE	CDKN1IF	CDKN1IG	CDKN1IH	CDKN1II	CDKN1IJ	CDKN1IK	CDKN1IL	CDKN1IM	CDKN1IN	CDKN1IO	CDKN1IP	CDKN1IQ	CDKN1IR	CDKN1IS	CDKN1IT	CDKN1IU	CDKN1IV	CDKN1IW	CDKN1IX	CDKN1IY	CDKN1IZ	CDKN1JA	CDKN1JB	CDKN1JC	CDKN1JD	CDKN1JE	CDKN1JF	CDKN1JG	CDKN1JH	CDKN1JI	CDKN1JJ	CDKN1JK	CDKN1JL	CDKN1JM	CDKN1JN	CDKN1JO	CDKN1JP	CDKN1JQ	CDKN1JR	CDKN1JS	CDKN1JT	CDKN1JU	CDKN1JV	CDKN1JW	CDKN1JX	CDKN1JY	CDKN1JZ	CDKN1KA	CDKN1KB	CDKN1KC	CDKN1KD	CDKN1KE	CDKN1KF	CDKN1KG	CDKN1KH	CDKN1KI	CDKN1KJ	CDKN1KK	CDKN1KL	CDKN1KM	CDKN1KN	CDKN1KO	CDKN1KP	CDKN1KQ	CDKN1KR	CDKN1KS	CDKN1KT	CDKN1KU	CDKN1KV	CDKN1KW	CDKN1KX	CDKN1KY	CDKN1KZ	CDKN1LA	CDKN1LB	CDKN1LC	CDKN1LD	CDKN1LE	CDKN1LF	CDKN1LG	CDKN1LH	CDKN1LI	CDKN1LJ	CDKN1LK	CDKN1LL	CDKN1LM	CDKN1LN	CDKN1LO	CDKN1LP	CDKN1LQ	CDKN1LR	CDKN1LS	CDKN1LT	CDKN1LU	CDKN1LV	CDKN1LW	CDKN1LX	CDKN1LY	CDKN1LZ	CDKN1MA	CDKN1MB	CDKN1MC	CDKN1MD	CDKN1ME	CDKN1MF	CDKN1MG	CDKN1MH	CDKN1MI	CDKN1MJ	CDKN1MK	CDKN1ML	CDKN1MN	CDKN1MO	CDKN1MP	CDKN1MQ	CDKN1MR	CDKN1MS	CDKN1MT	CDKN1MU	CDKN1MV	CDKN1MW	CDKN1MX	CDKN1MY	CDKN1MZ	CDKN1NA	CDKN1NB	CDKN1NC	CDKN1ND	CDKN1NE	CDKN1NF	CDKN1NG	CDKN1NH	CDKN1NI	CDKN1NJ	CDKN1NK	CDKN1NL	CDKN1NM	CDKN1NN	CDKN1NO	CDKN1NP	CDKN1NQ	CDKN1NR	CDKN1NS	CDKN1NT	CDKN1NU	CDKN1NV	CDKN1NW	CDKN1NX	CDKN1NY	CDKN1NZ	CDKN1OA	CDKN1OB	CDKN1OC	CDKN1OD	CDKN1OE	CDKN1OF	CDKN1OG	CDKN1OH	CDKN1OI	CDKN1OJ	CDKN1OK	CDKN1OL	CDKN1OM	CDKN1ON	CDKN1OO	CDKN1OP	CDKN1OQ	CDKN1OR	CDKN1OS	CDKN1OT	CDKN1OU	CDKN1OV	CDKN1OW	CDKN1OX	CDKN1OY	CDKN1OZ	CDKN1PA	CDKN1PB	CDKN1PC	CDKN1PD	CDKN1PE	CDKN1PF	CDKN1PG	CDKN1PH	CDKN1PI	CDKN1PJ	CDKN1PK	CDKN1PL	CDKN1PM	CDKN1PN	CDKN1PO	CDKN1PP	CDKN1PQ	CDKN1PR	CDKN1PS	CDKN1PT	CDKN1PU	CDKN1PV	CDKN1PW	CDKN1PX	CDKN1PY	CDKN1PZ	CDKN1QA	CDKN1QB	CDKN1QC	CDKN1QD	CDKN1QE	CDKN1QF	CDKN1QG	CDKN1QH	CDKN1QI	CDKN1QJ	CDKN1QK	CDKN1QL	CDKN1QM	CDKN1QN	CDKN1QO	CDKN1QP	CDKN1QQ	CDKN1QR	CDKN1QS	CDKN1QT	CDKN1QU	CDKN1QV	CDKN1QW	CDKN1QX	CDKN1QY	CDKN1QZ	CDKN1RA	CDKN1RB	CDKN1RC	CDKN1RD	CDKN1RE	CDKN1RF	CDKN1RG	CDKN1RH	CDKN1RI	CDKN1RJ	CDKN1RK	CDKN1RL	CDKN1RM	CDKN1RN	CDKN1RO	CDKN1RP	CDKN1RQ	CDKN1RR	CDKN1RS	CDKN1RT	CDKN1RU	CDKN1RV	CDKN1RW	CDKN1RX	CDKN1RY	CDKN1RZ	CDKN1SA	CDKN1SB	CDKN1SC	CDKN1SD	CDKN1SE	CDKN1SF	CDKN1SG	CDKN1SH	CDKN1SI	CDKN1SJ	CDKN1SK	CDKN1SL	CDKN1SM	CDKN1SN	CDKN1SO	CDKN1SP	CDKN1SQ	CDKN1SR	CDKN1SS	CDKN1ST	CDKN1SU	CDKN1SV	CDKN1SW	CDKN1SX	CDKN1SY	CDKN1SZ	CDKN1TA	CDKN1TB	CDKN1TC	CDKN1TD	CDKN1TE	CDKN1TF	CDKN1TG	CDKN1TH	CDKN1TI	CDKN1TJ	CDKN1TK	CDKN1TL	CDKN1TM	CDKN1TN	CDKN1TO	CDKN1TP	CDKN1TQ	CDKN1TR	CDKN1TS	CDKN1TT	CDKN1TU	CDKN1TV	CDKN1TW	CDKN1TX	CDKN1TY	CDKN1TZ	CDKN1UA	CDKN1UB	CDKN1UC	CDKN1UD	CDKN1UE	CDKN1UF	CDKN1UG	CDKN1UH	CDKN1UI	CDKN1UJ	CDKN1UK	CDKN1UL	CDKN1UM	CDKN1UN	CDKN1UO	CDKN1UP	CDKN1UQ	CDKN1UR	CDKN1US	CDKN1UT	CDKN1UU	CDKN1UV	CDKN1UW	CDKN1UX	CDKN1UY	CDKN1UZ	CDKN1VA	CDKN1VB	CDKN1VC	CDKN1VD	CDKN1VE	CDKN1VF	CDKN1VG	CDKN1VH	CDKN1VI	CDKN1VJ	CDKN1VK	CDKN1VL	CDKN1VM	CDKN1VN	CDKN1VO	CDKN1VP	CDKN1VQ	CDKN1VR	CDKN1VS	CDKN1VT	CDKN1VU	CDKN1VV	CDKN1VW	CDKN1VX	CDKN1VY	CDKN1VZ	CDKN1WA	CDKN1WB	CDKN1WC	CDKN1WD	CDKN1WE	CDKN1WF	CDKN1WG	CDKN1WH	CDKN1WI	CDKN1WJ	CDKN1WK	CDKN1WL	CDKN1WM	CDKN1WN	CDKN1WO	CDKN1WP	CDKN1WQ	CDKN1WR	CDKN1WS	CDKN1WT	CDKN1WU	CDKN1WV	CDKN1WW	CDKN1WX	CDKN1WY	CDKN1WZ	CDKN1XA	CDKN1XB	CDKN1XC	CDKN1XD	CDKN1XE	CDKN1XF	CDKN1XG	CDKN1XH	CDKN1XI	CDKN1XJ	CDKN1XK	CDKN1XL	CDKN1XM	CDKN1XN	CDKN1XO	CDKN1XP	CDKN1XQ	CDKN1XR	CDKN1XS	CDKN1XT	CDKN1XU	CDKN1XV	CDKN1XW	CDKN1XX	CDKN1XY	CDKN1XZ	CDKN1YA	CDKN1YB	CDKN1YC	CDKN1YD	CDKN1YE	CDKN1YF	CDKN1YG	CDKN1YH	CDKN1YI	CDKN1YJ	CDKN1YK	CDKN1YL	CDKN1YM	CDKN1YN	CDKN1YO	CDKN1YP	CDKN1YQ	CDKN1YR	CDKN1YS	CDKN1YT	CDKN1YU	CDKN1YV	CDKN1YW	CDKN1YX	CDKN1YY	CDKN1YZ	CDKN1ZA	CDKN1ZB	CDKN1ZC	CDKN1ZD	CDKN1ZE	CDKN1ZF	CDKN1ZG	CDKN1ZH	CDKN1ZI	CDKN1ZJ	CDKN1ZK	CDKN1ZL	CDKN1ZM	CDKN1ZN	CDKN1ZO	CDKN1ZP	CDKN1ZQ	CDKN1ZR	CDKN1ZS	CDKN1ZT	CDKN1ZU	CDKN1ZV	CDKN1ZW	CDKN1ZX	CDKN1ZY	CDKN1ZZ
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COGNITION-GUIDE (Phase II)

Interventional Clinical
Treatment Trial (Phase II)

Atezolizumab (PD-L1)

Inavolisib (PI3K)

Ipatasertib (AKT)

Olaparib (PARP)

Sacituzumab Gov. (TROP2)

Tras. / Per. (HER2)

Observation*

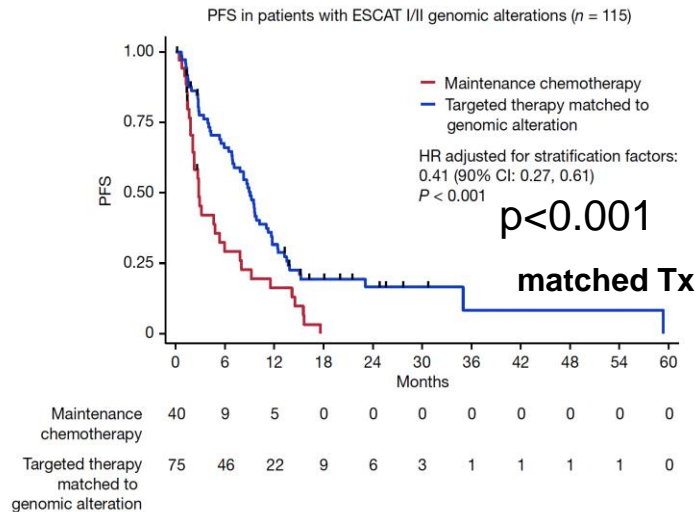
*Biomarker-negative or inability to conduct
molecular profiling

Genomic
Profiling

Andreas Schneeweiss, Peter Lichter
Verena Thewes - NCT /DKFZ

Personalisierte Medizin funktioniert in der Praxis

SAFIR-02 Studie André et al., Nature, 2022

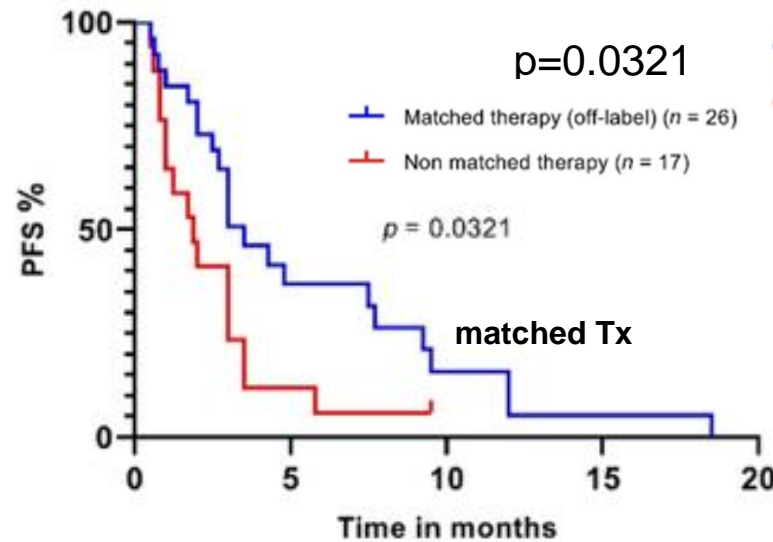


Article

Genomics to select treatment for patients with metastatic breast cancer



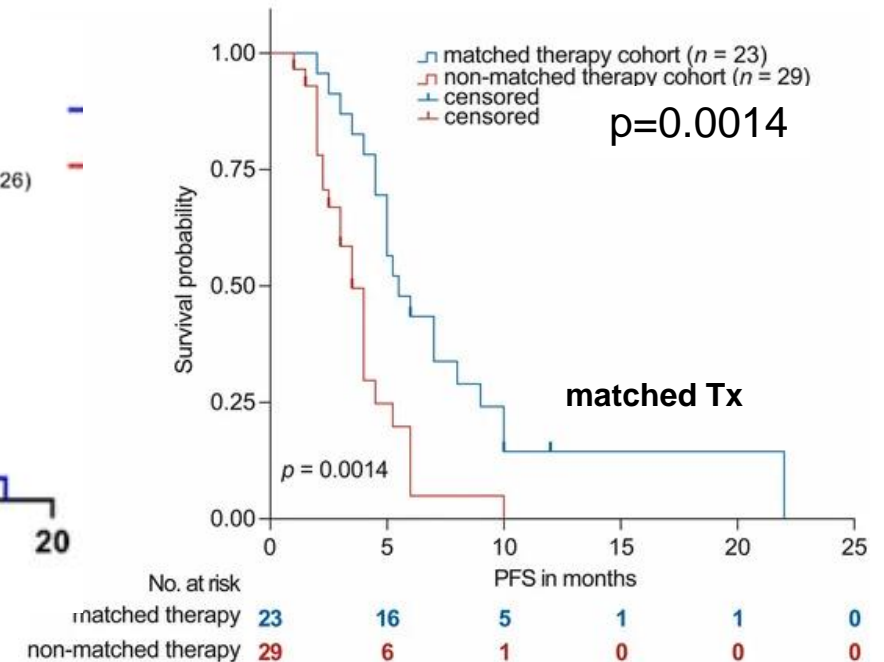
“the first 100 pts”: 109 pts tested
30% personalized treatment



Tarawneh, Mack , Cancers, 2022



gynecological cancer 2018-2023
N=84, 27% personalized treatment



Gremke et al, Cancers 2024

State-of-the-art: klinische Diagnostik

- **MTB als Bestandteil der Regelversorgung**
- **großes NGS-Panel >1MB**
 - “so früh wie möglich” bei klinischer Indikation
 - Kooperation mit zertifiziertem ZPM
- **Ausweitung liquid biopsy Diagnostik**
- **Klassische MTB Diagnostik im ambulanten Setting oder in der ASV**
- **WES im Modellvorhaben Genomsequenzierung**

Aktuelle Forschung – GBG Netzwerk

- **GBG: MOMENTUM Registerstudie**
 - Register für therapieresistente MammaCas

GBG MTB Projekt
MOMENTUM – postNACT
Fokus TNBC oder HER2+BC
Verknüpfung mit COGNITION-Guide

- **SATURN3 Projekt: Tumorerheterogenität als wichtigstes Problem in der Onkologie**

Vielen Dank für die Aufmerksamkeit!

GBG

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Vielen Dank an alle Patientinnen,
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Microbiota against cancer
International research program
European Commission
H2020

