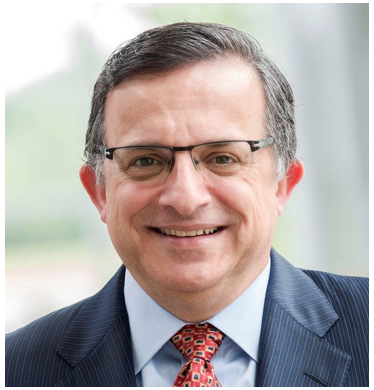
INVENTING FOR LIFE

Merck
ASCO Investor Event

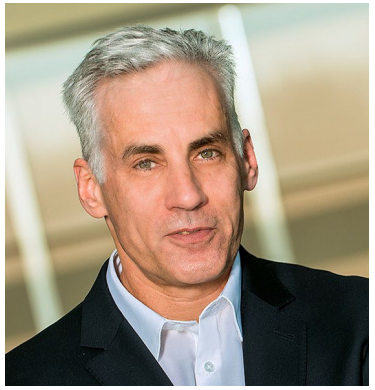
June 7, 2022

Presenters

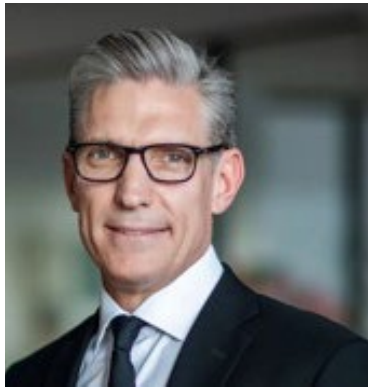
Dr. Dean Li
President, Merck Research Laboratories



Dr. Eliav Barr
SVP, Head of Global Clinical Development & Chief Medical Officer



Dr. Eric H. Rubin
SVP, Oncology Early Development



Jannie Oosthuizen
President, Human Health U.S.

Agenda

- **Opening |** Dr. Dean Li
- **ASCO 2022 Highlights |** Dr. Eliav Barr
- **Pipeline Update |** Dr. Eric H. Rubin
- **Commercial Update |** Jannie Oosthuizen
- **Closing |** Dr. Dean Li
- **Q&A**

Forward-looking statement of Merck & Co., Inc., Rahway, N.J., USA

This presentation of Merck & Co., Inc., Rahway, NJ, USA (the "company") includes "forward-looking statements" within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements are based upon the current beliefs and expectations of the company's management and are subject to significant risks and uncertainties. There can be no guarantees with respect to pipeline products that the products will receive the necessary regulatory approvals or that they will prove to be commercially successful. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements.

Risks and uncertainties include but are not limited to, general industry conditions and competition; general economic factors, including interest rate and currency exchange rate fluctuations; the impact of the global outbreak of novel coronavirus disease (COVID-19); the impact of pharmaceutical industry regulation and health care legislation in the United States and internationally; global trends toward health care cost containment; technological advances, new products and patents attained by competitors; challenges inherent in new product development, including obtaining regulatory approval; the company's ability to accurately predict future market conditions; manufacturing difficulties or delays; financial instability of international economies and sovereign risk; dependence on the effectiveness of the company's patents and other protections for innovative products; and the exposure to litigation, including patent litigation, and/or regulatory actions.

The company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the company's Annual Report on Form 10-K for the year ended December 31, 2021 and the company's other filings with the Securities and Exchange Commission (SEC) available at the SEC's Internet site (www.sec.gov).

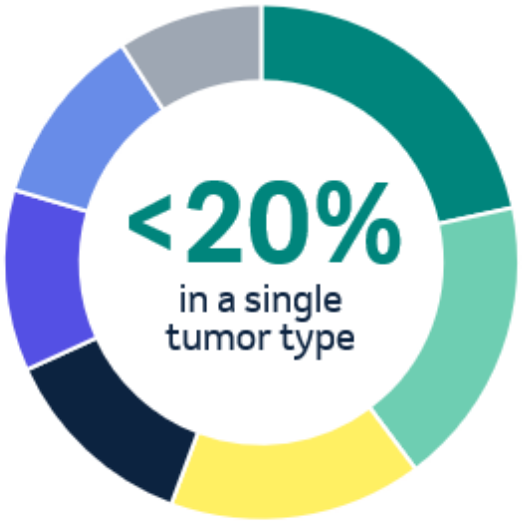
INVENTING FOR LIFE

Dr. Dean Li

President, Merck Research Laboratories

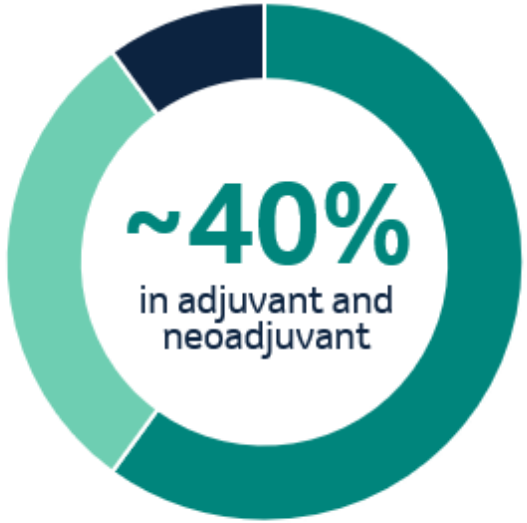
Transforming the treatment of cancer with industry's broadest oncology development program

Leading program aimed to further improve patient outcomes with greater than 80 potential new approvals through 2028



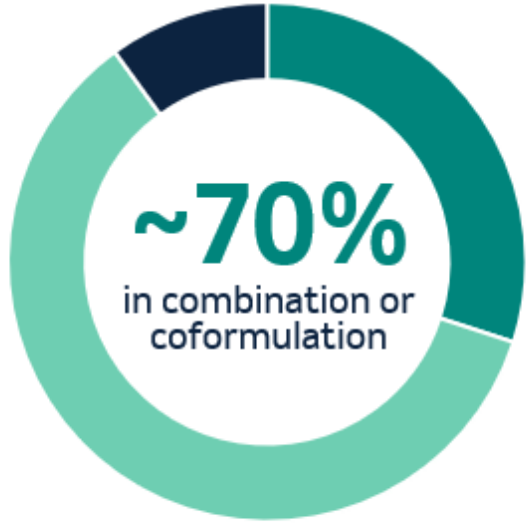
Expand
into new tumor types

Lung · Women's · GU · H&N · Skin · Heme · GI



Extend
into earlier lines of therapy

Advanced · Adjuvant · Neoadjuvant



Deepen
response to KEYTRUDA

Monotherapy · Combination · Coformulation

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Dr. Eliav Barr

SVP, Head of Global Clinical Development & Chief Medical Officer

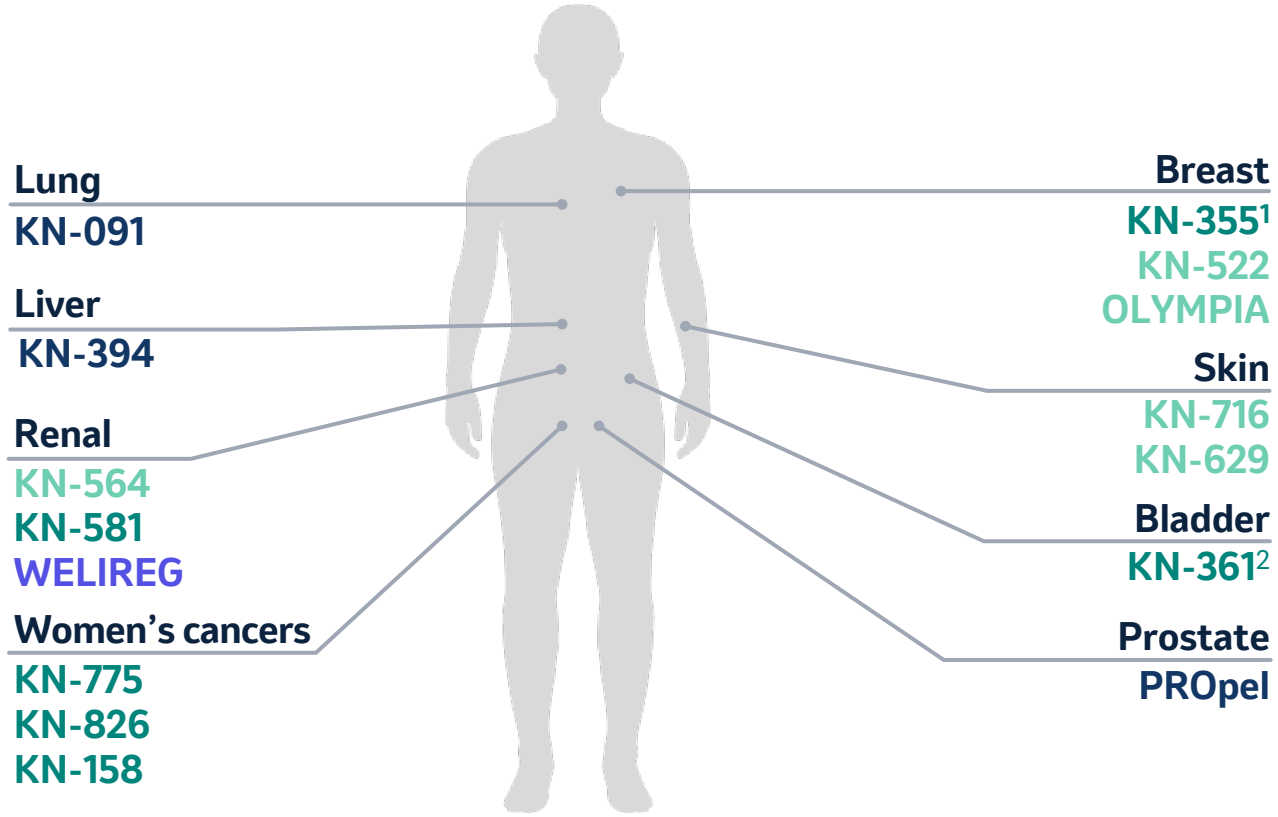
Advancing our oncology pipeline since ASCO 2021 with a total of 12 FDA approvals

6 Metastatic stage cancers

5 Earlier-stage cancers

1 New molecular entity

3 Pivotal study readouts



Delivering on our commitment to help improve patient outcomes

[1] KN-355 reflects conversion to full approval. [2] KN-361 represents full FDA approval based on KN-052.

ASCO 2022: continuing to generate evidence to help transform patient care

Key data presented since ASCO 2021

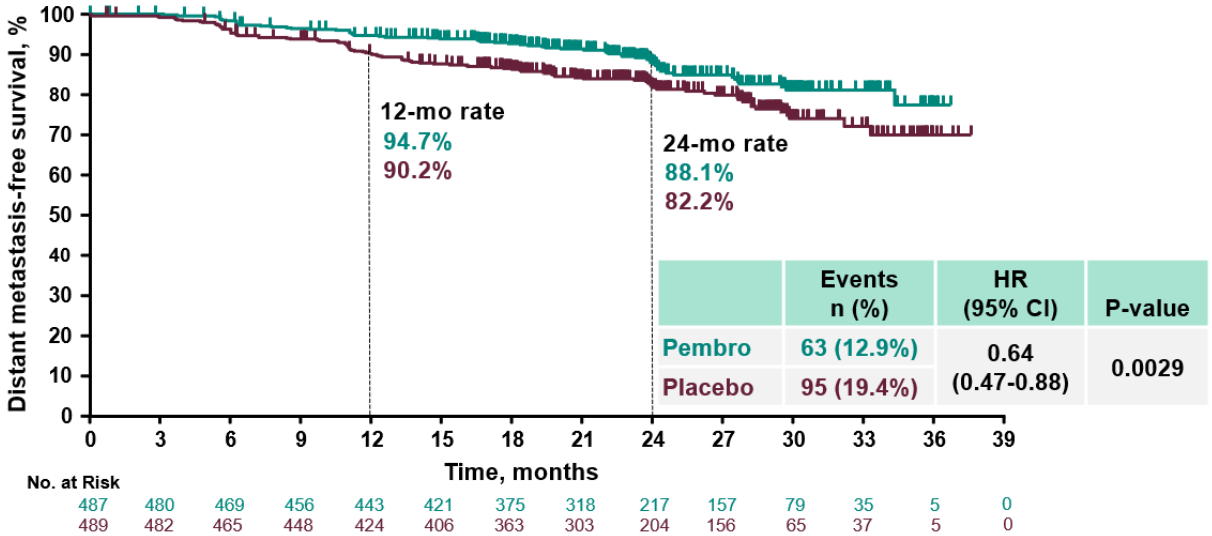
ASCO GU:	AACR:	ASCO GI:
KN-564	KEYVIBE-001	KN-590
KN-365	quavonlimab	
KN-052	KN-555	
KN-361	**ESMO Plenary:**	
PROpel	OlympiA	
	KN-091	

Impactful data at 2022 ASCO ANNUAL MEETING

Demonstrating durable benefit	**Longer-term follow-up** data for **KN-799** (NSCLC), **KN-224** (HCC), **KN-022** (melanoma) and **KN-651** (CRC) and **WELIREG** (certain VHL disease-associated tumors)
Extending into earlier lines	Expanded analyses, new endpoints and key subgroups for certain **earlier-stage settings** with **KN-716** (melanoma), **KN-522** (TNBC), **KN-564** (RCC) and **KN-091** (NSCLC)
Advancing the science	Combination data for favezelimab (anti-LAG-3) in cHL; **coformulated** with pembrolizumab

KN-716: clinically meaningful data supports KEYTRUDA as an adjuvant treatment option in stage II melanoma[1]

Distant metastasis-free survival



	Events n (%)	HR (95% CI)	P-value
Pembro	63 (12.9%)	0.64 (0.47-0.88)	0.0029
Placebo	95 (19.4%)		

Data cutoff date: January 4, 2022

KEYTRUDA reduced the risk of distant metastasis or death by **36%**

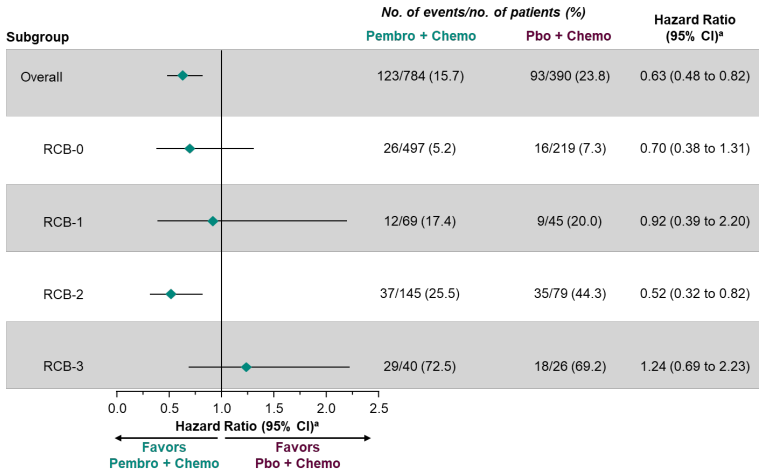
- DMFS data **reinforces evidence** for KEYTRUDA as adjuvant therapy in **stage IIB** and **IIC melanoma**[1]
- At a median follow-up of 27.4 months, RFS data shows sustained reduction in risk of recurrence:
  - 24-month RFS rate of **81.2% for KEYTRUDA** vs 72.8% for placebo
  - Hazard ratio of 0.64, 95% CI: 0.50-0.84

[1] KN-716 supports KEYTRUDA as an adjuvant treatment option for patients 12 years and older with completely resected stage IIB and IIC melanoma.

Continue to make progress in earlier-stage settings

KN-522 (Neoadjuvant/adjuvant) TNBC

EFS by Residual Cancer Burden at the time of surgery



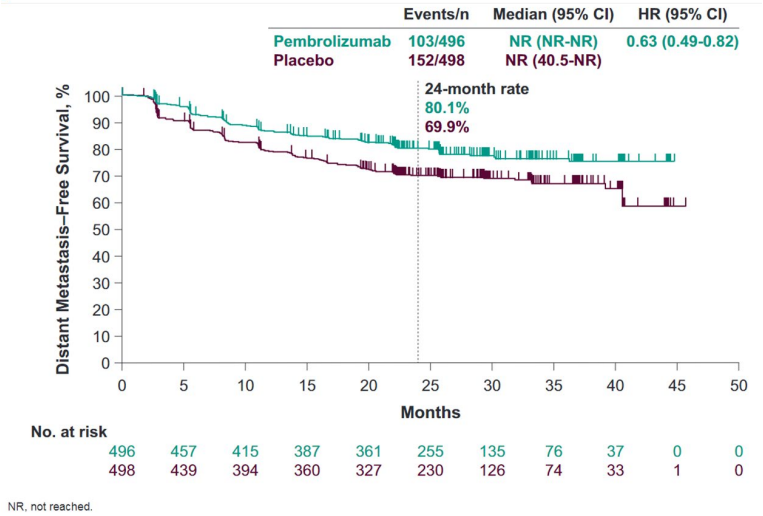
Data cutoff date: March 23, 2021

Exploratory: EFS benefit with KEYTRUDA

- **exceeded benefit** expected by the observed shift to lower RCB categories suggests a contribution to EFS from adjuvant therapy

KN-564 (Adjuvant) RCC

DMFS in the Intention to Treat Population



NR, not reached.

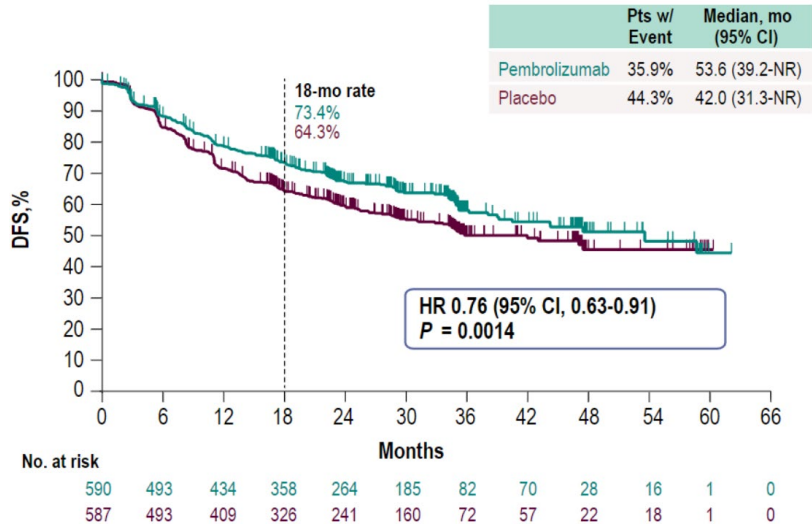
Data cutoff date: June 14, 2021

Exploratory: Adjuvant KEYTRUDA

- **reduced the risk** of distant metastasis free survival
- delayed the need for second line therapy
- lengthened time to second occurrence of disease progression

KN-091 (Adjuvant) NSCLC

DFS in the overall population



Data cutoff date: September 20, 2021

Exploratory: Subgroup analysis for adjuvant treatment with KEYTRUDA consistent with primary findings of the study

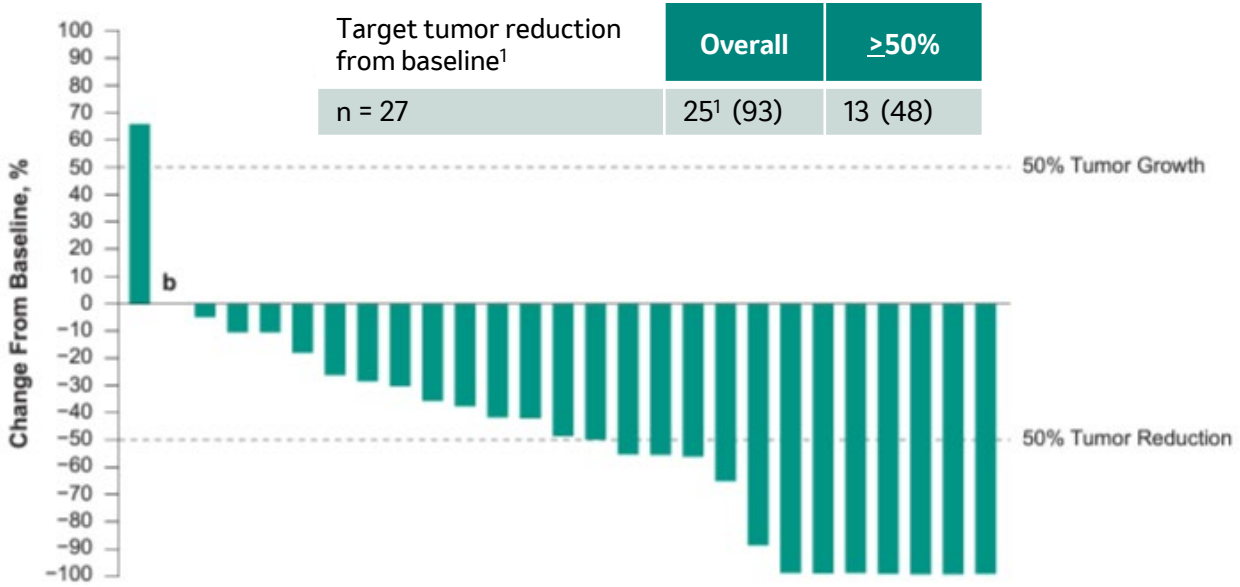
- **improved disease free-survival** in patients with stage IB (≥4 cm) to IIIA NSCLC following surgical resection regardless of PD-L1 expression[1]

[1] The trial will continue to analyze DFS in patients whose tumors express high levels of PD-L1 (TPS ≥50%), the other dual primary endpoint which did not meet statistical significance per the pre-specified statistical plan.

First-time data for favezelimab demonstrates potential in relapsed or refractory classical Hodgkin lymphoma

Best target lesion change from baseline

Target tumor reduction from baseline[1]	Overall	≥50%
n = 27	25[1] (93)	13 (48)



Favezelimab (anti-LAG-3) plus pembrolizumab demonstrated anti-tumor activity in PD-1 relapsed or refractory cHL patients in Phase 1 /2 study

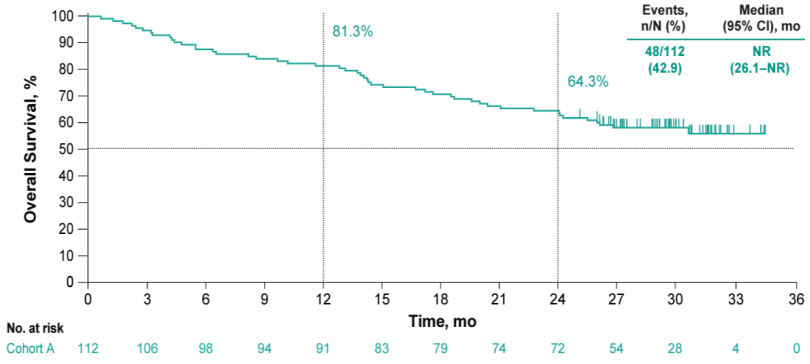
- Baseline target **lesion reductions** were seen in **25 of 27 patients**
- The combination demonstrated effective **anti-tumor activity** with:
  - ORR of 30%
  - CR of 9%
  - PR of 21%

Data cutoff date: March 21, 2022
[1]Patients who had a baseline and a postbaseline assessment.

Long-term follow-up data confirm durable benefits of KEYTRUDA and WELIREG across important indications

KN-799
Stage III NSCLC

OS for cohort A (squamous and nonsquamous histology)



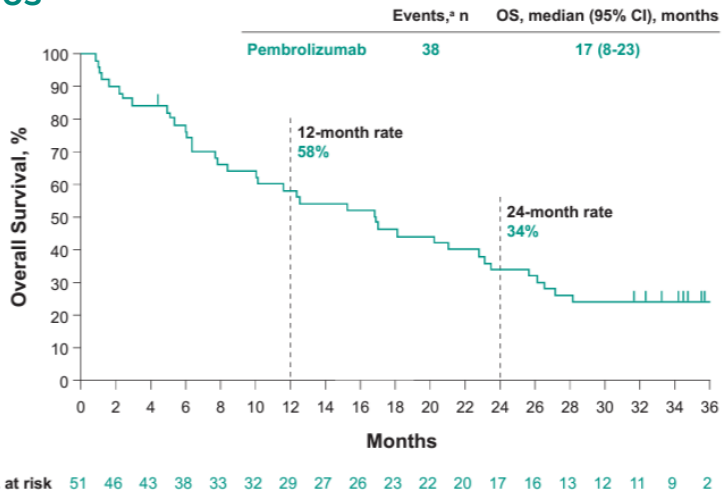
Data cutoff date: October 18, 2021

After 2+ years of follow-up, KEYTRUDA + cCRT followed by KEYTRUDA continued to demonstrate robust and durable responses

- median PFS of 30.6 months in cohort A with 2-year PFS rates of 55%–61%
- 2-year OS rates of 64%–71% in both cohorts

KN-224
1L HCC

OS



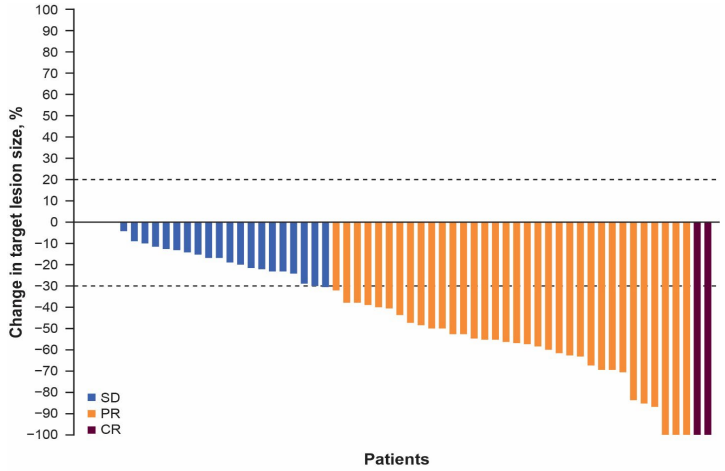
Data cutoff date: October 1, 2021

After a 3-year follow-up, results from cohort 2 continued to demonstrate KEYTRUDA monotherapy in patients with advanced HCC has:

- durable antitumor activity
- promising OS
- manageable safety profile

WELIREG
VHL disease-associated RCC

Best % change from baseline in target lesion size



Data cutoff date: July 15, 2021

After a median follow-up of 29.3 months, WELIREG continued to show durable antitumor activity in VHL disease–related neoplasms, including RCC, pNETs, and CNS hemangioblastomas

- confirmed ORR in VHL disease-associated RCC increased from 49% to 59%

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Dr. Eric H. Rubin

SVP, Oncology Early Development

Advancing our diversified and innovative oncology pipeline with more than 20 novel mechanisms

Immuno-oncology/tumor microenvironment

- Vibostolimab (anti-TIGIT)
- Favezelimab (anti-LAG-3)
- Quavonlimab (anti-CTLA-4)
- MK-4830 (anti-ILT-4)
- MK-0482 (anti-ILT-3)
- MK-1484 (selective IL-2)

Antibody-drug conjugates

- Zilovertamab vedotin (anti-ROR-1)
- Ladiratuzumab vedotin (anti-LIV-1)
  - Collaboration with SeaGen

Redirected cell killing

- Bi- and tri-specific T & NK cell engagers
  - Collaborations with Dragonfly, Janux
- Allogeneic cell therapy
  - Collaborations with Artiva, A2 Biotherapeutics

Molecularly targeted therapies

- WELIREG (HIF-2α)
- MK-1084 (KRAS G12C)
- Nemtabrutinib (rBTK-i)
- Tukysa (HER-2)
  - Collaboration with SeaGen

Further details provided in subsequent slides

Vibostolimab is a novel anti-TIGIT candidate that builds on the foundation of KEYTRUDA

KeyVibe
ONCOLOGY CLINICAL TRIALS

	KeyVibe-003	KeyVibe-006	KeyVibe-007	KeyVibe-008
Setting	1L mNSCLC (PD-L1+)	Stage III Inoperable NSCLC	1L mNSCLC	1L ES - SCLC
Development stage	Ph 3	Ph 3	Ph 3	Ph 3
Primary endpoint	PFS OS	PFS OS	PFS OS	OS
Estimated primary completion date	2026	2028	2025	2025

8 ongoing studies, including **4** in **Phase 3**, evaluating vibostolimab co-formulated with pembrolizumab, alone and in combination with other agents across a **wide range of cancers**

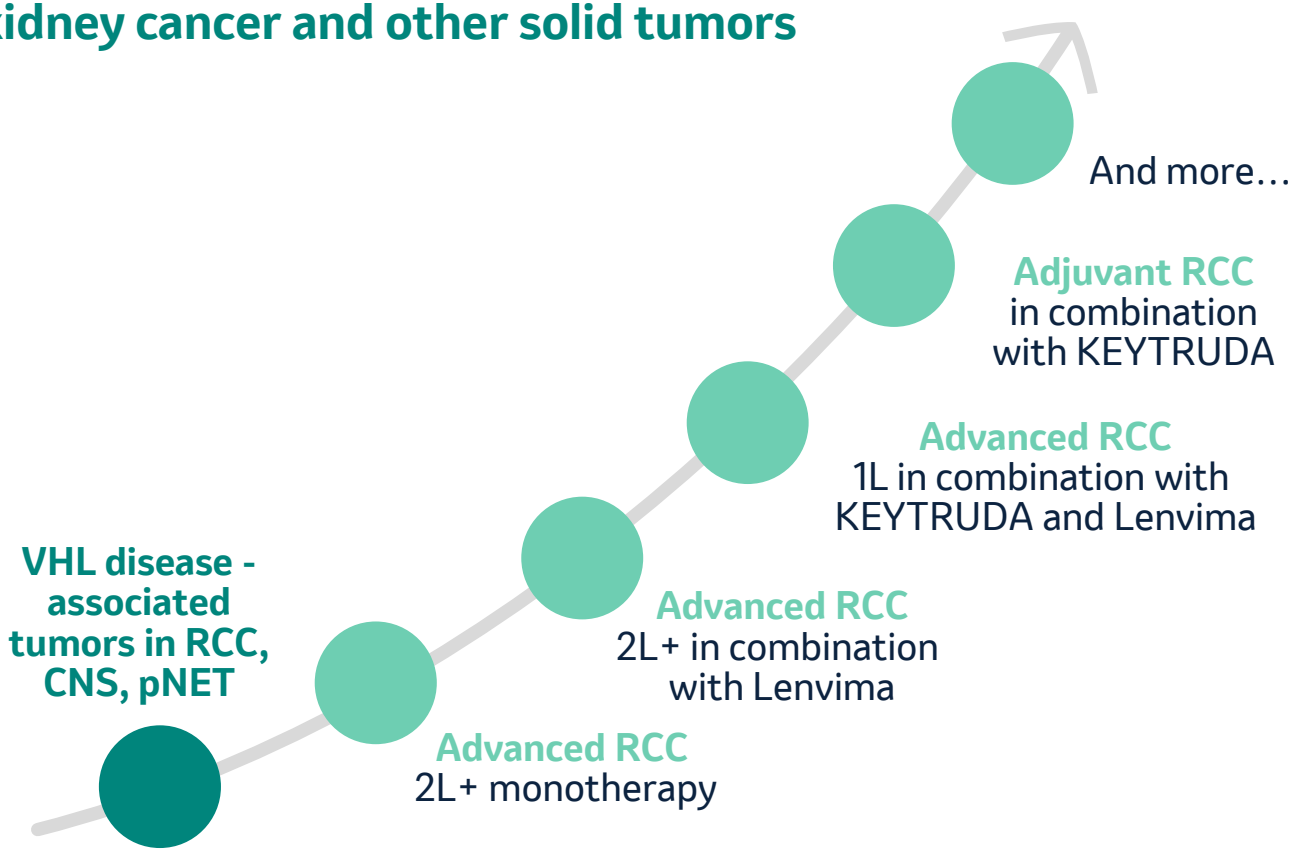
Targeted approach with additional coformulated checkpoint inhibitors in key tumor types to help address unmet needs

		favezelimab (anti-LAG-3)	quavonlimab (anti-CTLA-4)
Setting	PD-L1+ microsatellite-stable colorectal cancer	classical Hodgkin lymphoma	renal cell carcinoma
Development stage	Ph 3 study in coformulation with pembrolizumab	Ph 3 study planned in relapsed / refractory cHL in coformulation with pembrolizumab	Ph 3 study in coformulation with pembrolizumab and Lenvatinib
Primary endpoint	OS	TBD	PFS, OS
Estimated primary completion date	2024	TBD	2026

WELIREG is well-positioned to expand to broader populations of patients with RCC

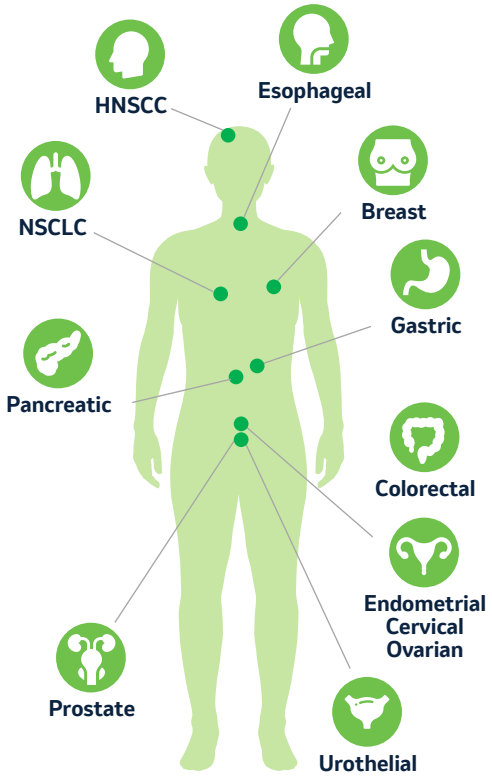
- Advancing studies in **sporadic kidney cancers**, informed by our understanding of the Von Hippel-Lindau gene
- **4 pivotal Phase 3 clinical trials** in progress assessing efficacy alone and in combination with pembrolizumab and/or lenvatinib in RCC
- Ongoing research to identify signals in other tumors

Potential additional indications in kidney cancer and other solid tumors

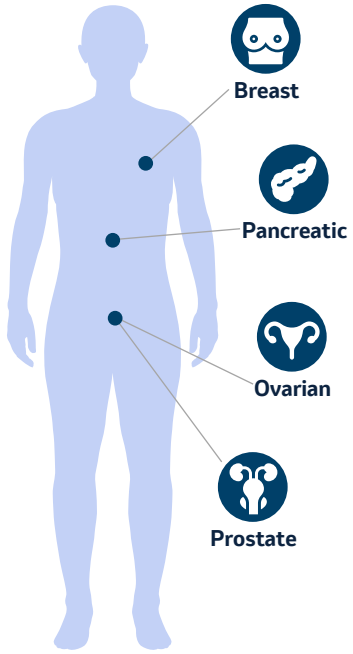


Proven track record of developing precision medicine strategies with the goal of identifying optimal treatment options for patients

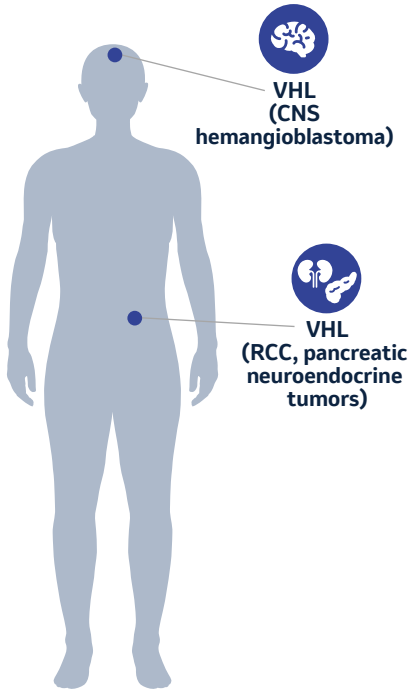
KEYTRUDA® (pembrolizumab) Injection 100 mg



Lynparza® olaparib tablets 150 mg



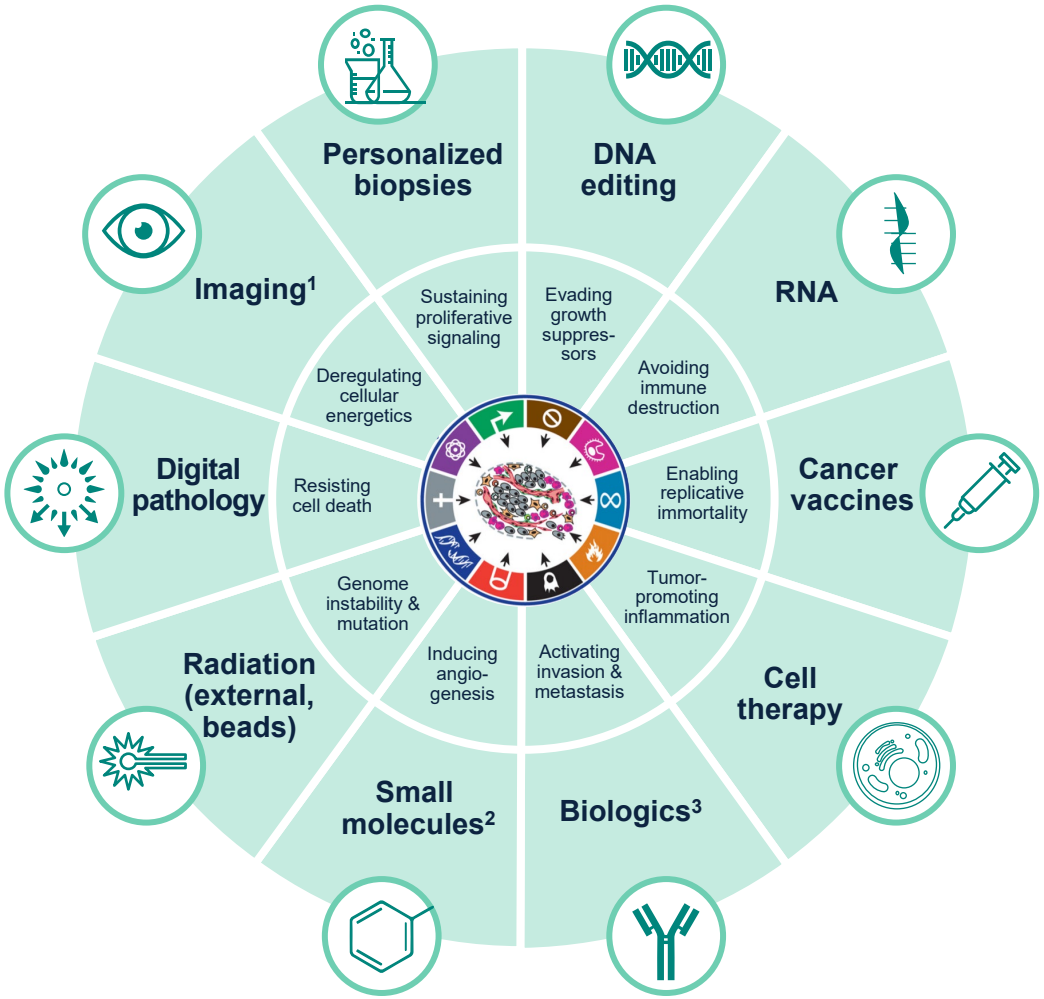
WELIREG™ (belzutifan) 40 mg tablets



- **14** biomarker-driven indications across products to help **identify patients** eligible for treatment
  - **First approval** for an anti–PD-1 therapy with a biomarker
  - **First pan-tumor** MSI-H/dMMR and TMB-H indications
- **Expand use** of biomarkers and leverage **assay technologies** including[1]:
  - Liquid Biopsy (ctDNA)
  - Novel Imaging Technologies
  - High-Content NGS and Histopathology
  - Machine-Learning and AI
  - Novel Proteomics and Cytometry

[1] Biomarkers and assay technologies do not apply to all products listed.

Emerging scientific technologies have the potential to profoundly improve patient outcomes



New technologies and our **growing knowledge** of tumor biology are **fueling innovations** in cancer diagnosis and treatment

[1]Conventional and molecular imaging; [2]Including radioactive chemical entities, nanoparticle encapsulated small molecules; [3]Includes antibody-drug conjugates with cytotoxic and radio-isotope payloads.

INVENTING FOR LIFE

Jannie Oosthuizen

President, Human Health U.S.

Driving global growth across a broad portfolio of commercial assets

KEYTRUDA® (pembrolizumab) for Injection 50 mg

Foundational cancer treatment

Lynparza® olaparib tablets 150 mg

Market-leading PARPi

LENVIMA® (lenvatinib) capsules 10 mg and 4 mg

TKI with multiple approved indications

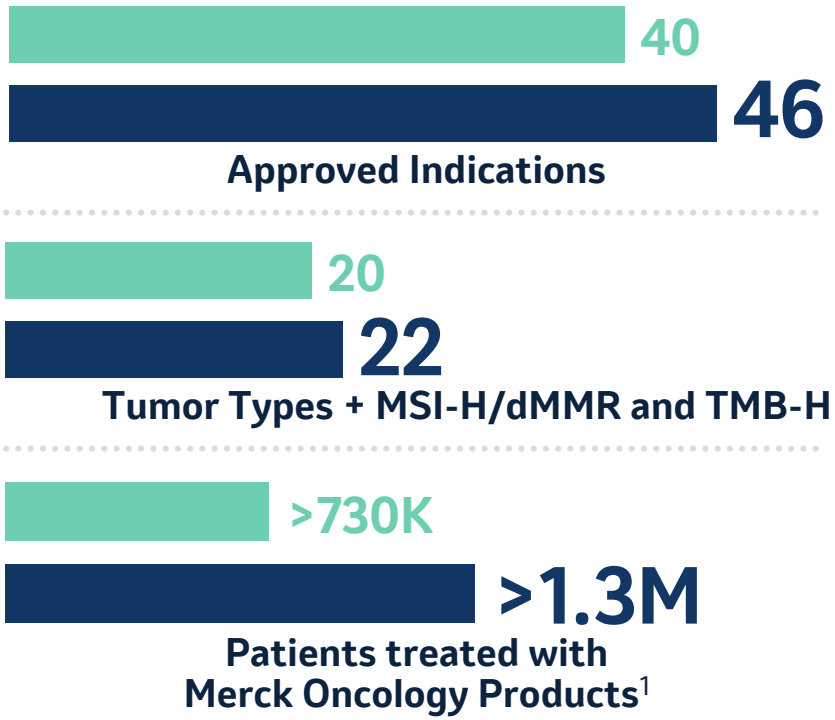
TUKYSA® tucatinib 50 mg | 150 mg tablets

Highly-selective small-molecule TKI

WELIREG™ (belzutifan)

First-in-class HIF-2α inhibitor

Significant progress from ASCO 2021 to ASCO 2022



Lynparza, Lenvima and Tukysa are in partnership.

[1]Patients treated with commercially available products as of March 31, 2022.

Advancing a broad program, including targeting certain types of earlier-stage cancer

2018–2021		2022 -2025			2026+		
KN-054 Melanoma ★ **APPROVED**	KN-629 cSCC ★**APPROVED**	OlympiA Breast ★ **APPROVED**	KN-A18 Cervical	KN-937 HCC	KN-242 TNBC	KN-B15 MIBC	LITESPARK-022 RCC
KN-057 NMIBC ★ **APPROVED**	KN-564 RCC ★ **APPROVED**	KN-091 NSCLC	KN-866 MIBC	LEAP-012 HCC	KN-756 Breast ER+/HER2-	KN-975 Esophageal	KEYLYNK-012 NSCLC
KN-522 TNBC ★ **APPROVED**	KN-716 Melanoma ★ **APPROVED**	KN-412 HNSCC	KN-123 MIBC	KN-689 HNSCC	KN-905 MIBC	KN-992 MIBC	KEYVIBE-006 NSCLC
		KN-671 NSCLC	KN-676 NMIBC	KN-630 cSCC			
		KN-585 Gastric	KN-867 NSCLC	KN-B21 Endometrial			

Successful commercial execution with **7** launches in the earlier-stage setting

Timeline based on primary completion date on www.clinicaltrial.gov and FDA approvals. Actual timing may vary.

Successful launch of WELIREG for certain VHL disease-associated tumors with additional potential future opportunities

LITESPARK ONCOLOGY CLINICAL TRIALS

Monotherapy

- ✓ **Certain VHL disease-associated tumors**
- 2-4L advanced RCC post IO/post TKI

Doublet

- 2-3L advanced RCC post IO (+ Lenvima)
- Adjuvant RCC (+ KEYTRUDA)

Triplet

- 1L advanced RCC (+ KEYTRUDA + Lenvima)

First-in-class molecule

- **Approved** in certain VHL disease-associated tumors with high unmet need
- In VHL, most patients have multiple surgeries over many years; WELIREG is their **first-ever systemic treatment option** for certain VHL tumors

Potential treatment options

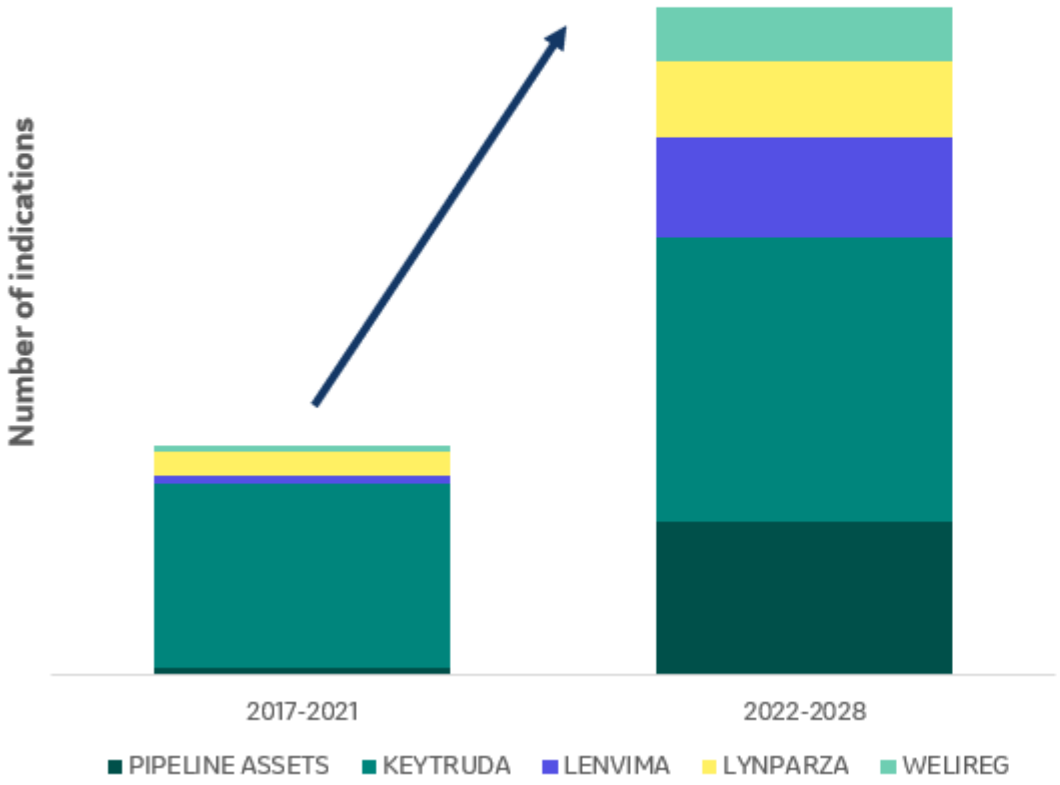
- Ongoing studies alone and in combination with TKI and IO in advanced and adjuvant RCC
- In refractory RCC, most patients have progressed despite being treated with both TKI and IO
- In first-line and adjuvant RCC, WELIREG **combinations represent opportunities** to better understand the potential efficacy profile

Future opportunities

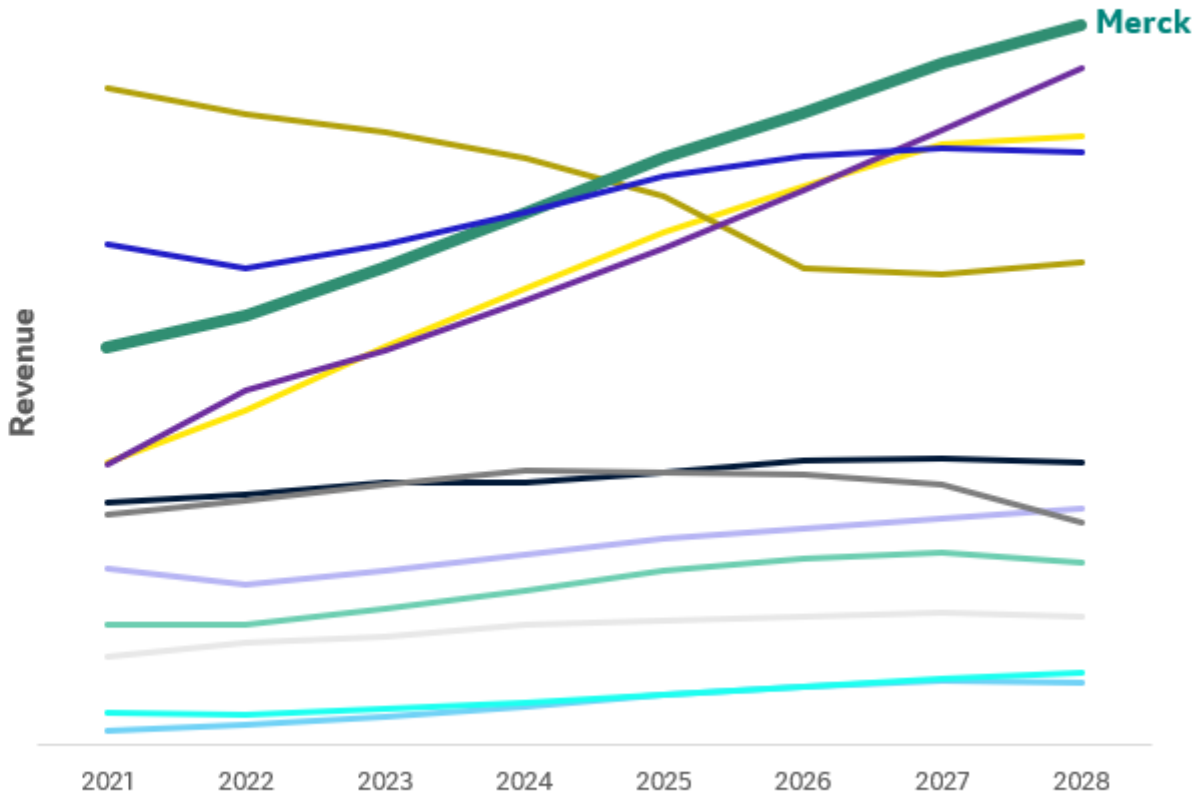
- **4 Phase 3 trials** with primary completion dates starting in 2025
- **Blockbuster potential** including additional indications

Expect to be leader in oncology driven by additional indications, earlier lines of therapy and new assets and technologies

>80 potential approvals expected through **2028**…



…enables **Merck** to **sustain a strong growth trajectory** in oncology



Source: Evaluate Pharma as of May 24, 2022

INVENTING FOR LIFE

Dr. Dean Li

President, Merck Research Labs

Shaping the future of oncology with our robust portfolio and pipeline

Further establish KEYTRUDA as a foundational anti-PD-1 cancer treatment in monotherapy and in combination regimens

KEYTRUDA® (pembrolizumab) Injection 100 mg

Diversify through partnerships with PARPi, VEGF TKI, HER2 TKI, LIV-1 ADC

Lynparza™ olaparib capsules 50 mg — AstraZeneca

Koselugo (selumetinib) 10 mg & 25 mg capsules — AstraZeneca

LENVIMA (lenvatinib) capsules 10 mg and 4 mg — RESULTS THAT MATTER — Eisai

TUKYSA™ tucatinib 50 mg | 150 mg tablets

Ladiratuzumab Vedotin (LV) — SeaGen

Diversify through acquisitions of BTK, HIF-2α, ROR-1 ADC assets

Nemtabrutinib (MK-1026)
rBTKi

WELIREG™ (belzutifan) 40 mg tablets
HIF-2α

Zilovertamab Vedotin (MK-2140)
anti-ROR-1 ADC

Expand the IO-IO strategy through combinations with internal assets

Quavonlimab/pembo (MK-1308A)
anti-CTLA-4

Vibostolimab/pembro (MK-7684A)
anti-TIGIT

Favezelimab/pembro (MK-4280A)
anti-LAG-3

anti-ILT-4 (MK-4830)

anti-ILT-3 (MK-0482)

Expand into cell-based therapies & T/NK cell engagers

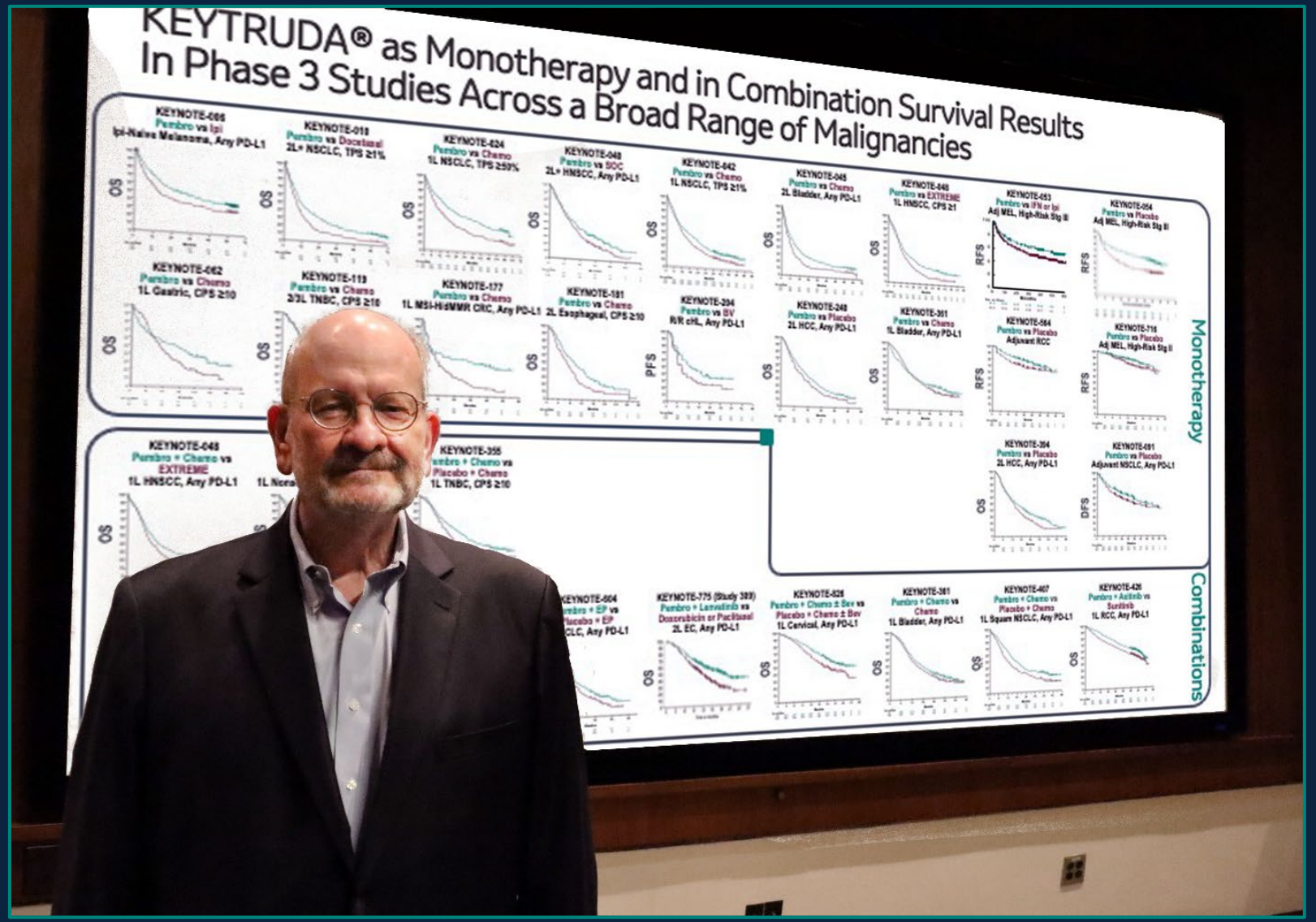
Dragonfly

artiva

P2 Biotherapeutics™

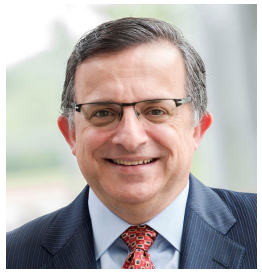
JANUX

Dr. Roy Baynes



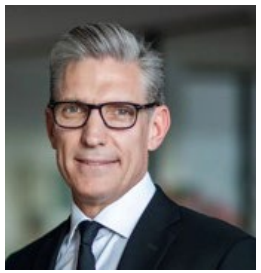
Q&A

Dr. Dean Li
President,
Merck Research
Laboratories



Dr. Eliav Barr
SVP, Head of Global
Clinical Development &
Chief Medical Officer

Dr. Eric H. Rubin
SVP, Oncology Early
Development



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INVENTING FOR LIFE

Appendix

Acronyms

BRCAwt = BRCA wild-type
cHL = Classical Hodgkin lymphoma
ccRCC = Clear cell renal cell carcinoma
cCRT = Concurrent chemoradiotherapy
CI = Confidence interval
CNS = Central nervous system
CR = Complete response
CRC = Colorectal cancer
cSCC = Cutaneous squamous cell carcinoma
DFS = Disease free survival
DMFS = Distant metastasis-free survival
dMMR = Deficient mismatch repair
EFS = Event free survival

ER = Estrogen receptor
ES = Extensive stage
HCC = Hepatocellular carcinoma
HIF-2α = Hypoxia-inducible factor–2α
HNSCC = Head and neck squamous cell carcinoma
IO = Immuno-oncology
MIBC = Muscle-invasive bladder cancer
MSI-H = Microsatellite instability-high
NMIBC = Non-muscle invasive bladder cancer
NGS = Next-generation sequencing
NSCLC= Non-small cell lung cancer
ORR = Objective response rate
OS =Overall survival

PARPi = poly-ADP ribose polymerase inhibitor
PFS = Progress free survival
pNET = Primitive neuroectodermal tumor
PR = Partial response
rBTK-i = Reversible bruton tyrosine kinase inhibitor
RCB = Residual cancer burden
RCC = Renal cell carcinoma
RFS = Recurrence free survival
SCLC = Small cell lung cancer
TKI = Tyrosine kinase inhibitor
TMB-H = Tumor mutational burden-high
TNBC = Triple negative breast cancer