Agenda

• **Introduction** | Dr. Dean Li, President, Merck Research Labs (MRL)
• **ESMO 2021 Highlights** | Dr. Roy Baynes, SVP and Chief Medical Officer, MRL
• **Commercial Opportunities** | Jannie Oosthuizen, SVP of Oncology Human Health, Merck
• Q&A
Forward-looking statement of Merck & Co., Inc., Kenilworth, N.J., USA

This presentation of Merck & Co., Inc., Kenilworth, N.J., 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 2020 Annual Report on Form 10-K and the company’s other filings with the Securities and Exchange Commission (SEC) available at the SEC’s Internet site (www.sec.gov).
Dr. Dean Li
President, Merck Research Labs
Unmatched commercial expertise to capitalize on significant opportunities

Broad oncology program with deep pipeline of differentiated early- and late-stage assets

World-class scientific expertise and ability to leverage KEYTRUDA’s foundational stature

Extensive runway to advance science to reach more patients and solve for unmet need

Uniquely positioned to drive long-term success and oncology leadership through continued execution and momentum
Broad oncology strategy to improve outcomes for cancer patients globally

Further **establish** KEYTRUDA as foundational treatment and **expand** to additional tumor types and earlier stages of disease.

**Deepen** responses and **extend** benefit with combinations.

**Advance** pipeline and pursue strategic collaborations and acquisitions to broaden portfolio.

**Identify** patients most likely to benefit from treatments.
Industry’s broadest immuno-oncology development program aimed to advance standard-of-care and address unmet needs

>1,600
Ongoing clinical trials

>1,100
Combination trials

>100
Registralional trials for KEYTRUDA under way

>120
KEYTRUDA trials in adj/neoadjuvant and earlier lines

>50
Business development transactions in 2020

>20
Novel mechanisms
ESMO data demonstrates our leadership in early-stage disease, women’s cancers and beyond

Continue to showcase **expansion into earlier stages of disease**

Highlight advances from our **rapidly growing portfolio in women’s cancers**

Demonstrate **leadership in oncology** by highlighting the breadth and depth of **portfolio** and **pipeline**
Dr. Roy Baynes

SVP and Chief Medical Officer, MRL
ESMO 2021: highlighting data in early-stage, women’s cancers and across broad portfolio

<table>
<thead>
<tr>
<th>Exciting data in early-stage disease</th>
<th>Commitment to women’s cancers</th>
<th>Progressing broad portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>KN-716</strong> New data in stage II adjuvant melanoma</td>
<td>• <strong>KN-826</strong> New data in 1L cervical cancer</td>
<td>• <strong>MK-6482</strong> WELIREG in advanced RCC</td>
</tr>
<tr>
<td>• <strong>KN-522</strong> Encore in adjuvant / neoadjuvant TNBC</td>
<td>• <strong>KN-355</strong> Final analysis in mTNBC</td>
<td>• <strong>KN-365</strong> Cohort A in prostate cancer</td>
</tr>
<tr>
<td>• <strong>KN-564</strong> Patient reported outcomes in adjuvant RCC</td>
<td>• OReO Maintenance in ovarian cancer</td>
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</tbody>
</table>
KEYNOTE-716: clinically meaningful data supports potential new treatment option in stage II melanoma

KEYTRUDA demonstrated a 35% reduction in the risk of disease recurrence or death compared to placebo

- Represents a potential first treatment option in patients with resected, high-risk, stage II melanoma
- Builds on the foundation of efficacy and safety data already established by KEYNOTE-054 in stage III setting
KEYNOTE-826: first and only first line cervical cancer combination regimen improving overall survival (OS), progression free survival (PFS) and objective response rate (ORR)

KEYTRUDA + chemotherapy with or without bevacizumab demonstrated significant benefit in all populations including PD-L1 CPS ≥1 and CPS ≥10 with potential to be the new standard of care for women with persistent, recurrent, or metastatic cervical cancer

Reduced the risk of death by 33% in the all-comers population with a median OS of 24.4 mos for KEYTRUDA vs. 16.5 mos with chemo

Improved PFS by 35% in the all-comers population with a median PFS of 10.4 mos for KEYTRUDA vs. 8.2 mos with chemo
KEYNOTE-355: results support new standard of care treatment regimen in first line metastatic TNBC

KEYTRUDA + chemotherapy resulted in statistically significant and clinically meaningful improvements in both OS and PFS versus chemotherapy alone

- Reduced the risk of death by 27% (HR=0.73)
- Increase of 6.9 months in median OS
- Addressing unmet medical need with the potential to extend lives of certain patients with this aggressive cancer
KEYNOTE-522: first phase 3 study with immunotherapy to demonstrate positive event free survival (EFS) results in high-risk early-stage TNBC

KEYTRUDA + chemotherapy significantly prolonged EFS, reducing the risk of EFS events by 37%

- Favorable trend for OS with final results pending
- Benefit consistent across all subgroups
- Results serve as the basis for the recent FDA approval of KEYTRUDA for patients with high-risk, early-stage TNBC
- KEYTRUDA + chemotherapy as part of a neoadjuvant/adjuvant regimen has the potential to change the treatment paradigm
KEYNOTE-564: first positive phase 3 study of adjuvant immunotherapy in RCC

KEYTRUDA following surgery reduced risk of recurrence or death by 32% compared to placebo for patients with RCC

- Favorable trend in OS with a 46% reduction in the risk of death with KEYTRUDA compared to placebo (HR=0.54 [95% CI, 0.30–0.96]; p=0.0164)
- Potential new standard of care in the adjuvant setting

Updated ESMO data on KN-564 PRO shows no clinically meaningful differences in health-related QoL or symptom scores
Building on our broad oncology portfolio with expansive phase 3 prostate program and novel mechanisms

**PROSTATE: KN-365 cohort A**

- 58.6% of patients experienced reduction in target lesion size among patients with RECIST-measurable disease
- Minimum of 11.4 months follow-up
- Promising rPFS and OS data support further evaluation of KEYTRUDA + olaparib

**WELIREG: MK-6482-003 (encore)**

- 86.5% of patients experienced a reduction in target lesion size
- Median follow-up of 15.4 months, belzutifan + cabozantinib showed promising activity in all patients with previously treated aRCC
- ORR consistent across IMDC risk categories
- Median PFS, 16.8 months
Potential foundational early-stage disease program across many tumor types

- **LUNG**
  - KN-091
  - KN-671
  - KL-012
  - KN-867

- **ESOPHAGEAL**
  - KN-975

- **HEAD & NECK**
  - KN-412
  - KN-689

- **BREAST**
  - KN-242
  - KN-756
  - KN-522

- **WOMEN'S CANCERS**
  - KL-001 (OVARIAN)
  - KN-A18 (CERVICAL)
  - KN-B21 (ENDOMETRIAL)

- **SKIN**
  - KN-585
  - KN-054
  - KN-716
  - KN-630

- **BLADDER**
  - KN-057
  - KN-676
  - KN-866
  - KN-905
  - KN-992
  - KN-B15

- **RENAL**
  - KN-564

- **GASTRIC**
  - KN-585

- **LEAP012**

- **HEAD & NECK**
  - OLYMPIA
Transforming cancer treatment with multiple agents and approaches across array of tumors

**Breast Cancer**
Notable advancements with diverse assets

- KN-522: adj/neoadj TNBC
- KN-355: mTNBC
- Tukysa: mHER2+
- LIV-1: ADC in mTNBC

**Women’s Cancers**
Broad profile across many tumors

- KN-826 / KN-A18: Cervical
- KN-775 / KN-158: Endometrial
- KL-001: Ovarian
- Lynparza Ovarian – multiple lines – OReO – rechallenge

**Prostate Cancer**
Robust phase 3 program

- KN-365A: Ph II
- KN-921: K+D mCRPC
- KN-641: K+E abi exp
- KN-991: K+E mHSPC
- PROpel: 1L mCRPC
- PROfound: 1L-2L mCRPC
- KL-010: K+L 3L mCRPC

**Renal Cell Carcinoma**
Expansive set of treatment options

- KN-564: adjuvant
- KN-426: K+axitinib
- KN-581: K+Lenvima
- Lenvima: 2L+
- WELIREG:
  - VHL associated RCC
  - Monotherapy: sporadic RCC
  - 2L-4L

Combination therapies across lines of treatment

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1 KN-921: KEYTRUDA+docetaxel; KN-641: KEYTRUDA+enzalutamide; KN-991: KEYTRUDA+enzalutamide
PROpel: Lynparza+abiraterone; PROfound: Lynparza; KL-010: KEYTRUDA+Lynparza
Jannie Oosthuizen
President, Global Oncology
Driving global leadership across a broad portfolio of commercial assets

Lynparza, Lenvima and Tukysa are in partnership

1 Tukysa is currently available in ex-US markets
2 Patients treated with commercially available product as of Sep 2021
Significant opportunities in early-stage treatment across cancer types where prevalence is high

Meaningful opportunity to **improve patient outcomes** with **earlier** diagnosis and treatment

Source: SEER 2020: Cancer Prevalence by Stage in U.S.
Transforming the treatment landscape across women’s cancers

Breast
• 1st anti-PD-1 to demonstrate pCR and EFS in early stage TNBC [KN-522]
• First IO approved in early stage TNBC [KN-522]
• Only IO to demonstrate OS in mTNBC [KN-355]
• 1st PARP to demonstrate survival in HER2-adj breast cancer [OlympiA]
• 1st PARP approved in HER2- mBC [OlympiAD]

Endometrial
• 1st cancer therapy approved for use based on a biomarker regardless of tumor type [KN-158]
• 1st IO+TKI to demonstrate survival in endometrial cancer [KN-775]
• 1st IO+TKI approved in endometrial cancer [KN-146]

Cervical
• 1st IO approved in cervical cancer (2L) [KN-158]
• 1st IO to demonstrate OS in 1L cervical cancer [KN-826]
• 1st vaccine to prevent HPV-related cervical cancer

Ovarian
• 1st PARPi approved in ovarian cancer [SOLO-1]

Potential for ~15 launches over the next 4 years
Addressing high incidence and significant unmet medical need
Building on our broad oncology portfolio with expansive phase 3 prostate program

- **95K** treatable patients (mHSPC) - KN-991
- **70K** treatable patients (1L mCRPC) - KN-641
- **37K** treatable patients (2L mCRPC) - KN-921
- **15K** treatable patients (3L mCRPC) - KL-10

**PROPEL**
**PROFOUND**

- Pembrolizumab combination study
- Olaparib study

Treatable patients sourced from Kantar
WELIREG: first-in-class molecule with potential for success in RCC

- **First-in-class** molecule targeting a gene transcription factor, based on Nobel Prize-winning science

- Result of successful **business development** along with **clinical and commercial execution**

- **3 pivotal clinical trials** in progress assessing efficacy alone and in combination with TKI & IO in advanced renal cell carcinoma

**Future growth opportunities in renal cell carcinoma**

- **1L in Combination with Lenvima & Keytruda**
- **2-3L in Combination with Lenvima**
- **2-4L Monotherapy**
- **APPROVED in VHL associated RCC, CNS, pNET**

and more...
Expect to be the oncology market leader driven by additional indications, earlier lines of therapy and new assets and technologies.

>90 potential approvals expected by 2028 with more than 50 expected by 2025...

...enables Merck to become the leading oncology company by 2025

Source: Evaluate Pharma (as of 9/14/2021)
Q&A

To ask a question on the operator-assisted audio line, press *1.

Note: be sure to mute your computer speakers if you are listening to the audio webcast.
Appendix
KEYTRUDA monotherapy and in combination improved cancer outcomes in phase 3 studies across a broad range of malignancies.
KEYTRUDA anti-tumor activity demonstrated in more than 25 cancer types

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Change From Baseline in Tumor Size, %</th>
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<tbody>
<tr>
<td>Melanoma ^1</td>
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<tr>
<td>NSCLC ^2</td>
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<tr>
<td>H&amp;N ^3</td>
<td></td>
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<tr>
<td>Urothelial ^4</td>
<td></td>
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<tr>
<td>TNBC ^5</td>
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<tr>
<td>Gastric ^6</td>
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<tr>
<td>cHL ^7</td>
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</tr>
<tr>
<td>NHL PMBCL ^5</td>
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<tr>
<td>Mesothelioma ^3</td>
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<tr>
<td>Ovarian ^9</td>
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<tr>
<td>SCLC ^11</td>
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<tr>
<td>Esophageal ^12</td>
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<tr>
<td>NPC ^13</td>
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<tr>
<td>Anal ^14</td>
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<tr>
<td>Biliary Tract ^15</td>
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<tr>
<td>HCC ^16</td>
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<tr>
<td>ER +/HER2 - BC ^17</td>
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<tr>
<td>Cervical ^18</td>
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<td>Thyroid ^19</td>
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<td>Salivary ^26</td>
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<td>Endometrial ^21</td>
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<td>MSI-H CRC ^24</td>
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</tr>
<tr>
<td>MSI-H non-CRC ^24</td>
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<tr>
<td>Carcinoid ^25</td>
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<tr>
<td>pNET ^25</td>
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<td>Merkel Cell ^26</td>
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<td>ccRCC ^27</td>
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<td>nccRCC ^28</td>
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<tr>
<td>tTMB-H ^29</td>
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<tr>
<td>cSCC ^30</td>
<td></td>
</tr>
</tbody>
</table>

We have an opportunity to shape the future by leveraging our robust portfolio and pipeline...

Expanding the IO-IO strategy by leveraging internal assets and expanding combination possibilities with targeted small molecules

CTLA-4 (MK-1308/ quavonlimab)  
TIGIT (MK-7684/ vibostelimab)  
LAG-3 (MK-4280/ favezelimab)  
ILT4 (MK-4830)

Diversifying through acquisitions with BTK, HIF-2α, ROR-1 ADC

ArQule  
BTK (MK-1026)  
Welireg (belzutifan)  
HIF-2α (MK-6482)  
VelosBio  
ROR-1 ADC (MK-2140/ zilovertamab vedotin)

Diversifying through partnerships with PARP1, VEGF TKI, HER2 TKI, LIV1 ADC

Lynparza olaparib  
Koselugo (dometinib)  
Lenvima (lenvatinib) capsules  
Tukysa tucatinib  
Ladiratumab Vedotin (LV)

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

KEYTRUDA® (pembrolizumab) Injection 100 mg
<table>
<thead>
<tr>
<th>Trial Name</th>
<th>Tumor</th>
<th>Mono/Combo</th>
<th>PCD:</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEYNOTE-091</td>
<td>NSCLC</td>
<td>Mono/standard therapy</td>
<td>2021 - Interim</td>
</tr>
<tr>
<td>KEYNOTE-412</td>
<td>Head &amp; Neck</td>
<td>Chemoradiation</td>
<td>2022</td>
</tr>
<tr>
<td>KEYNOTE-564</td>
<td>RCC</td>
<td>Mono</td>
<td>2022 - OS</td>
</tr>
<tr>
<td>KEYNOTE-676</td>
<td>Non-muscle invasive bladder</td>
<td>BCG</td>
<td>2022</td>
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<tr>
<td>KEVLYNK-001</td>
<td>Ovarian BRCAwt</td>
<td>Chemo followed by Lynparza</td>
<td>2023</td>
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<tr>
<td>KEYNOTE-585</td>
<td>Gastric</td>
<td>Chemo</td>
<td>2024</td>
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<td>KEYNOTE-671</td>
<td>NSCLC</td>
<td>Chemo</td>
<td>2024</td>
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<tr>
<td>KEYNOTE-A18</td>
<td>Cervical</td>
<td>Chemoradiation</td>
<td>2024</td>
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<td>Mono</td>
<td>2025</td>
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<td>KEYNOTE-866</td>
<td>Muscle-invasive bladder</td>
<td>Chemo</td>
<td>2025</td>
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<tr>
<td>KEYNOTE-867</td>
<td>NSCLC Stage I/IIA</td>
<td>Stereostatic body radiotherapy</td>
<td>2025</td>
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<tr>
<td>KEYNOTE-689</td>
<td>Head &amp; Neck</td>
<td>Mono/Chemoradiation</td>
<td>2025</td>
</tr>
<tr>
<td>KEYNOTE-630</td>
<td>Cutaneous squamous cell</td>
<td>Mono</td>
<td>2025</td>
</tr>
<tr>
<td>KEYNOTE-B21</td>
<td>Endometrial</td>
<td>Chemo +/- KEYTRUDA</td>
<td>2025</td>
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<tr>
<td>LEAP-012</td>
<td>HCC</td>
<td>Combo/Chemoradiation</td>
<td>2025</td>
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<tr>
<td>KEYNOTE-905</td>
<td>Bladder</td>
<td>Cystectomy/EV</td>
<td>2026</td>
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<tr>
<td>KEYNOTE-242</td>
<td>TNBC</td>
<td>Mono</td>
<td>2026</td>
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<tr>
<td>KEYNOTE-992</td>
<td>Muscle-invasive bladder</td>
<td>Chemoradiation</td>
<td>2026</td>
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<td>KEYNOTE-975</td>
<td>Esophageal</td>
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<td>KEYNOTE-B15</td>
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<td>KEYNOTE-756</td>
<td>ER+/HER2- Breast</td>
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<td>2031</td>
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Includes trials that have not yet read out