MERCK
INVENTING FOR LIFE

Merck
Q2 2022 Earnings

July 28, 2022

Agenda

Strategy and Business Update

Rob Davis
President & Chief Executive Officer

Business/Financial Results and Outlook

Caroline Litchfield
Chief Financial Officer

Research Update

Dr. Dean Li
President, Merck Research Laboratories

Question & Answer Session

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

This presentation of Merck & Co., Inc., Rahway, 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 candidates that the candidates 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).

MERCK
INVENTING FOR LIFE

Strategy & Business Update

Rob Davis
President & Chief Executive Officer

Delivered on our key strategic priorities in Q2

- Achieved strong commercial and financial performance
- Advanced the pipeline to meet patient unmet need
- Executed on strategic business development to enhance pipeline
- Created long-term value for patients and shareholders

Exceptional 2Q sales and earnings growth[1]

Worldwide Sales

$14.6B

+28%

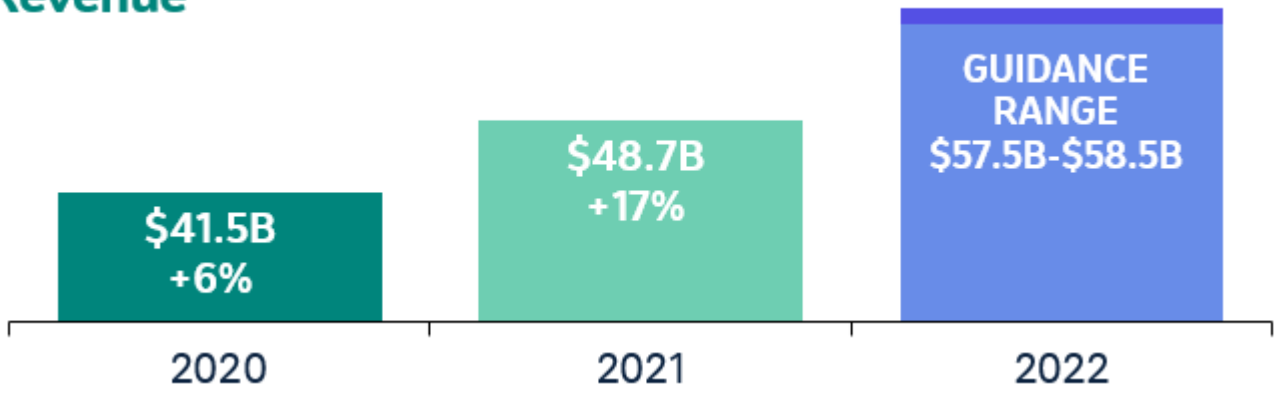
Ex-LAGEVRIO, +18%

Non-GAAP EPS

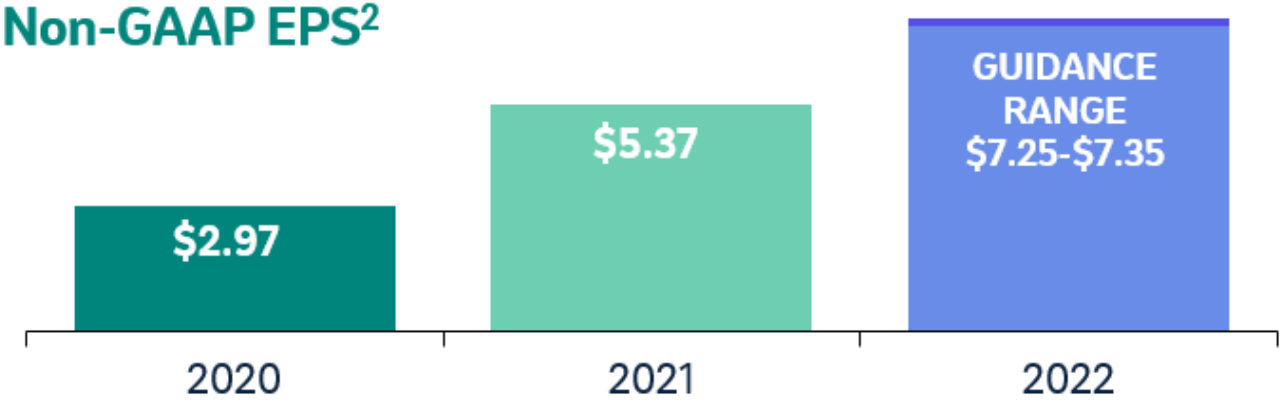
$1.87

+ >100%

Revenue



Non-GAAP EPS[2]



1. Results from continuing operations attributable to Merck & Co., Inc. 2. Beginning in 2022, Merck no longer excludes expenses for upfront and milestone payments related to collaborations and licensing agreements, or charges related to pre-approval assets obtained in transactions accounted for as asset acquisitions from its non-GAAP results. For 2020, non-GAAP results have been recast to include $4.2 billion of incremental R&D expenses, which reduced EPS by $1.56. For 2021, non-GAAP results have been recast to include $1.7 billion of incremental R&D expense, which reduced EPS by $0.65.

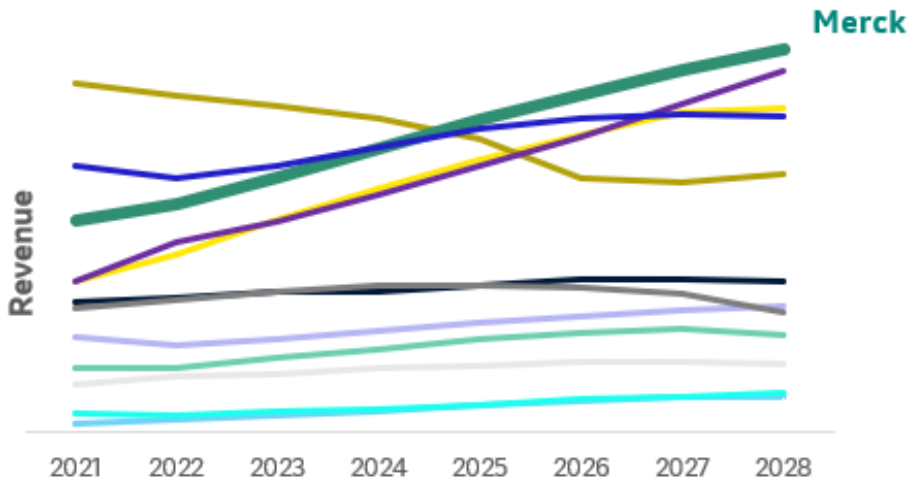
Advancing and providing transparency to our deep pipeline

Pneumococcal

- Made **significant progress** in our population-specific approach to pneumococcal vaccines with VAXNEUVANCE and V116
  - Received U.S. approval and provisional ACIP recommendation for **VAXNEUVANCE** in pediatrics
  - Presented data for **V116** in adults and initiated Phase 3 clinical trials

Oncology

- Hosted an investor event at ASCO to highlight **broad oncology portfolio** and pipeline
- Reiterated expectation for strong growth trajectory



Source: Evaluate Pharma oncology industry analysis as of May 24, 2022

Well positioned to deliver value to patients and shareholders

Significant progress over the past year in advancing Merck's position as a global biopharmaceutical leader

- **Achieving** record levels of production in manufacturing
- **Delivering** strong revenue growth
- **Advancing** our pipeline
- **Providing** increased transparency

MERCK
INVENTING FOR LIFE

Business/Financial Results and Outlook

Caroline Litchfield
Chief Financial Officer

Strong Q2 sales growth across Human Health and Animal Health

Merck

WORLDWIDE SALES[1,2,3]

$14.6B

+ 28% growth
+18% ex-LAGEVRIO[4]
+20% ex-exchange, ex-LAGEVRIO[5]

Human Health[3]

$12.8B

+28% growth
+16% ex-LAGEVRIO[4]
+21% ex-exchange, ex-LAGEVRIO[5]

Animal Health

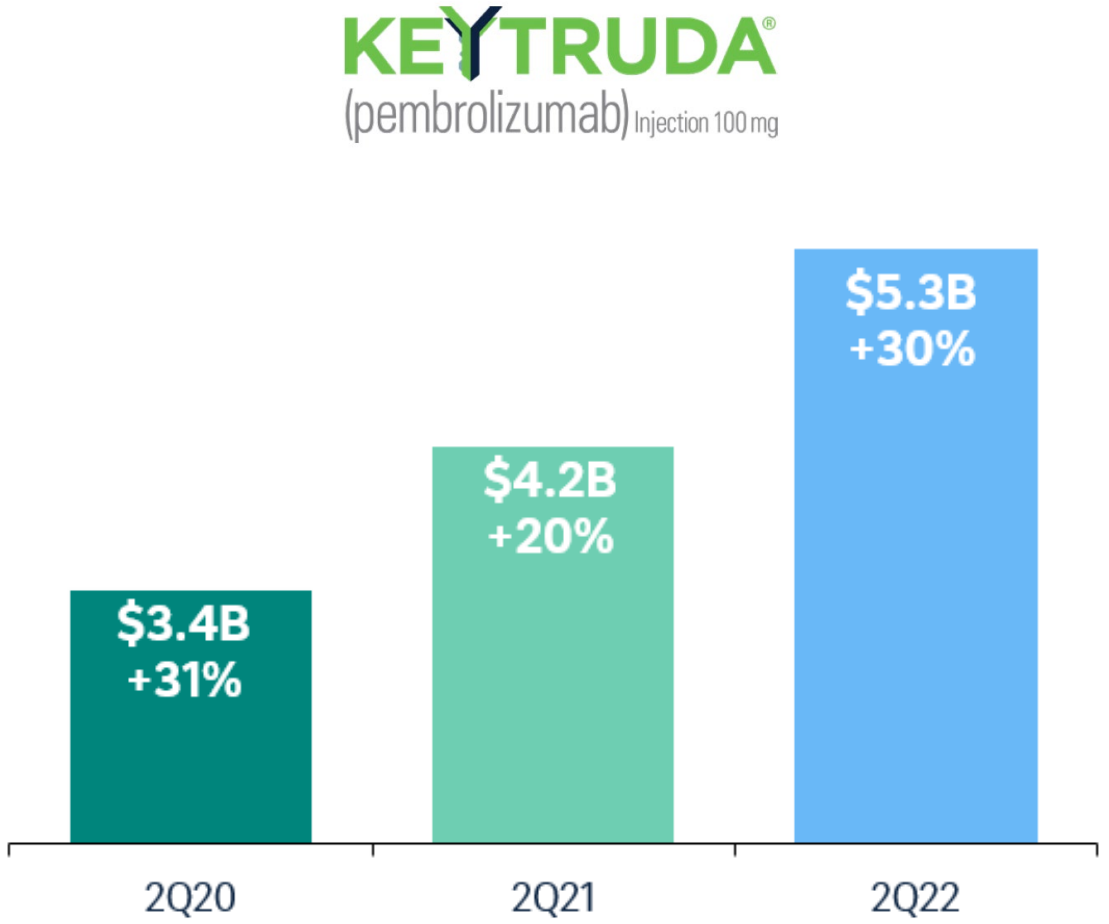
$1.5B

0% growth
+5% ex-exchange

1. Results from continuing operations attributable to Merck & Co., Inc. 2. Worldwide Sales includes Other Revenue 3. In 2Q 2021 human health had ~$400M of negative pandemic impact 4. Excludes LAGEVRIO sales of $1.2 billion in the quarter 5. Excludes LAGEVRIO sales of $1.2 billion in the quarter and foreign exchange

Oncology: KEYTRUDA is having profound impact on patients

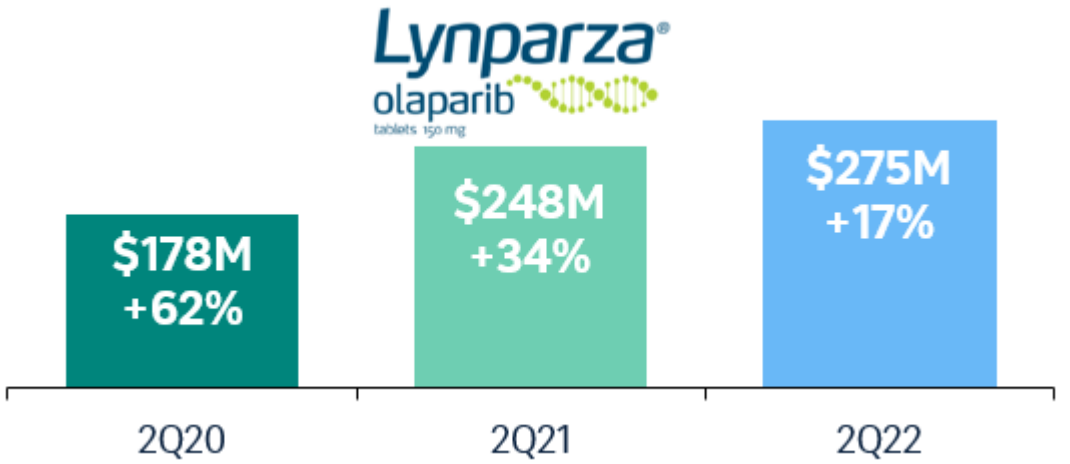
- KEYTRUDA sales of $5.3B increased 30% year-over-year, driven by robust global demand and expansion into new indications
  - In the U.S., sales of $3.2B driven by momentum in metastatic indications as well as increased uptake in earlier-stage cancer launches
  - Ex-U.S., 22% growth was driven by global uptake in NSCLC as well as HNSCC and advanced RCC
- KEYTRUDA is continuing to expand into earlier-stage cancers
  - 6 approved indications
  - Strong uptake in certain types of TNBC, RCC and melanoma in the U.S.
  - Encouraging initial trends in treating certain types of TNBC and RCC in key European markets

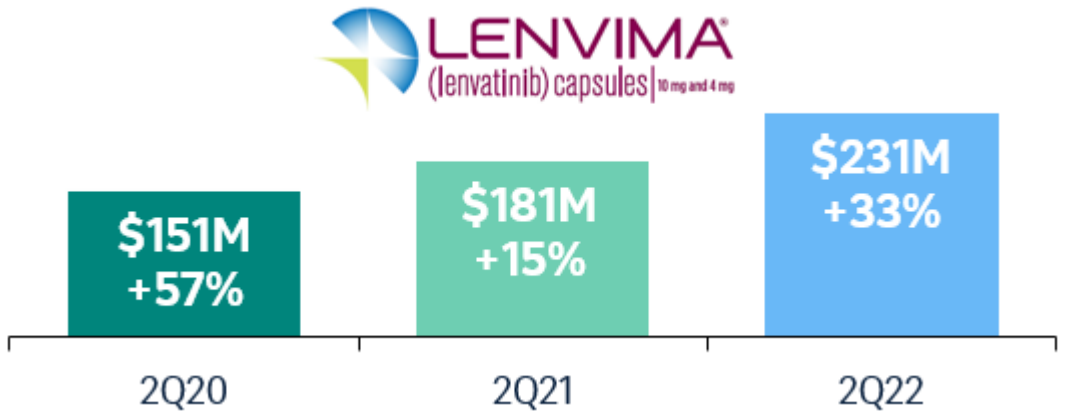


Growth rates exclude the impact of foreign exchange.

Oncology: Additional indications benefiting growth of key products

- Lynparza sales increased 17%, with growth driven by adjuvant treatment of certain patients with high-risk early-stage breast cancer following U.S. OlympiA approval
  - Maintaining position as market-leading PARP-inhibitor
- Lenvima sales grew 33% driven by demand following recent launches in RCC and endometrial cancer
- WELIREG encouraging uptake in patients with certain VHL-associated tumors

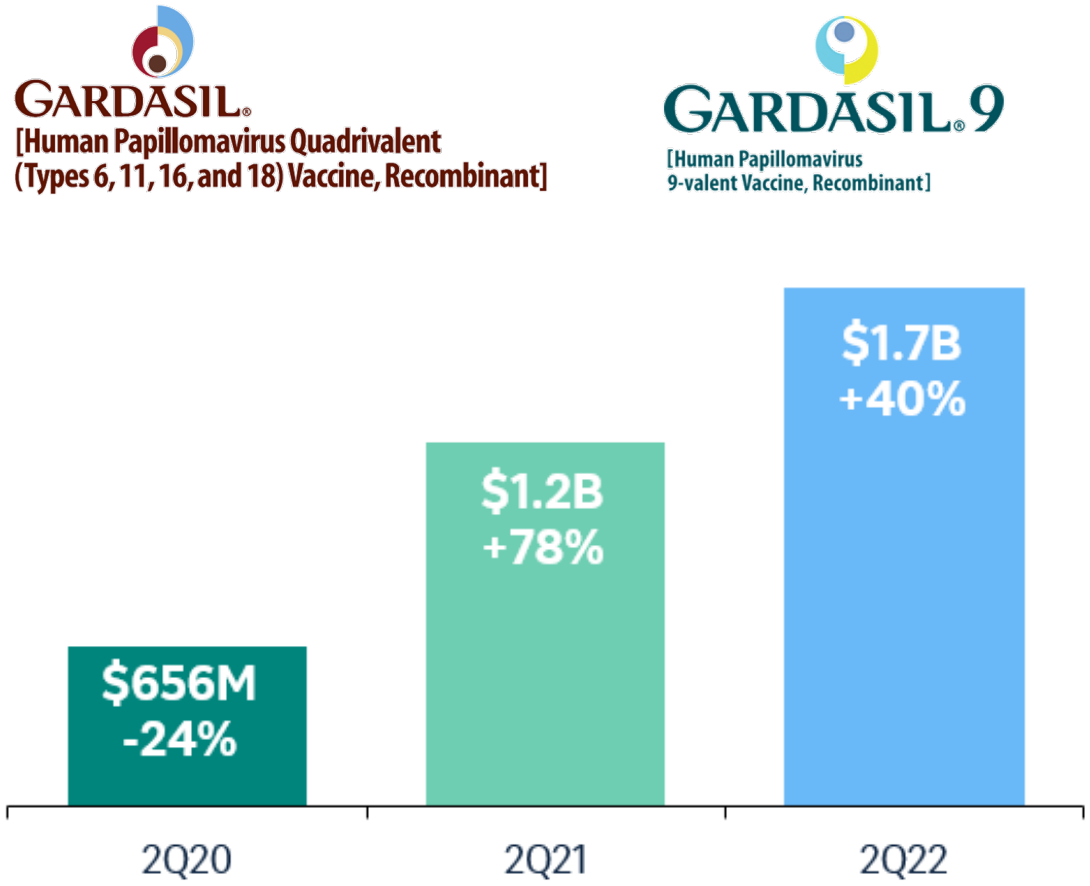




Growth rates exclude the impact of foreign exchange.

Vaccines: Excellent growth driven by GARDASIL

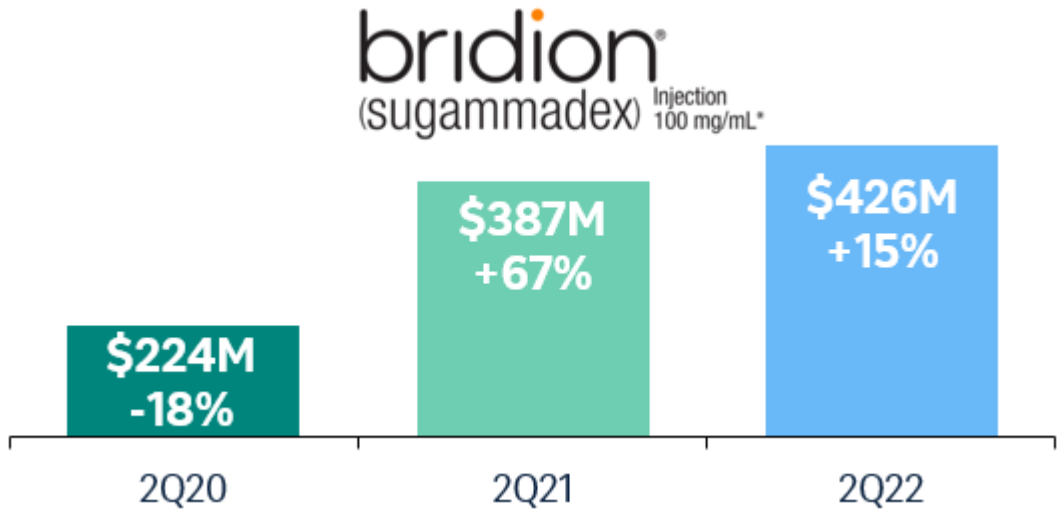
- GARDASIL sales of $1.7B increased 40% year-over-year driven by strong demand outside the U.S. and increased supply
  - Ex-U.S., growth was driven by robust demand, particularly in China, and increased supply
  - U.S. sales decreased due to CDC purchasing patterns

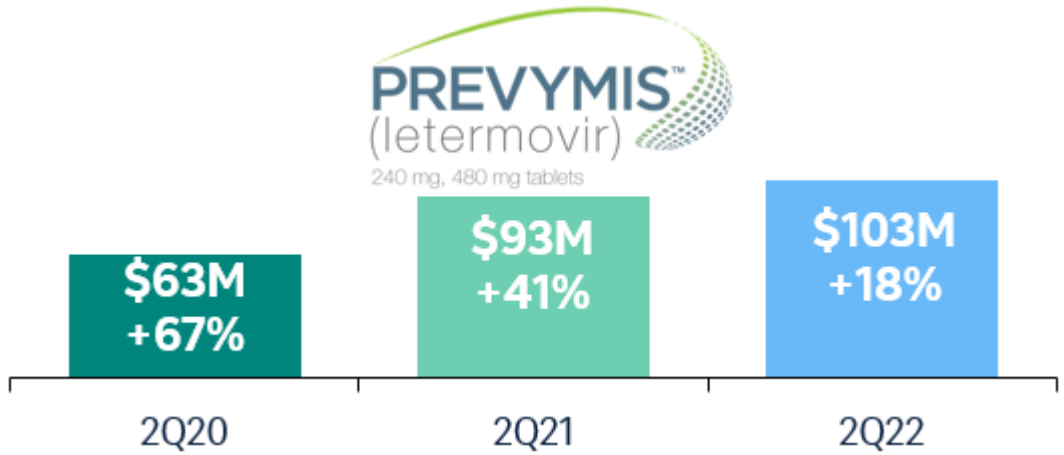


Increase/decrease in sales exclude the impact of foreign exchange.

Hospital: Strong global demand across broad portfolio

- BRIDION sales of $426M increased 15% primarily due to greater share among neuromuscular blockage reversal agents and an increase in surgical procedures
- PREVYMIS sales grew 18%, driven by continued strong global demand
- ZERBAXA benefiting from global resupply

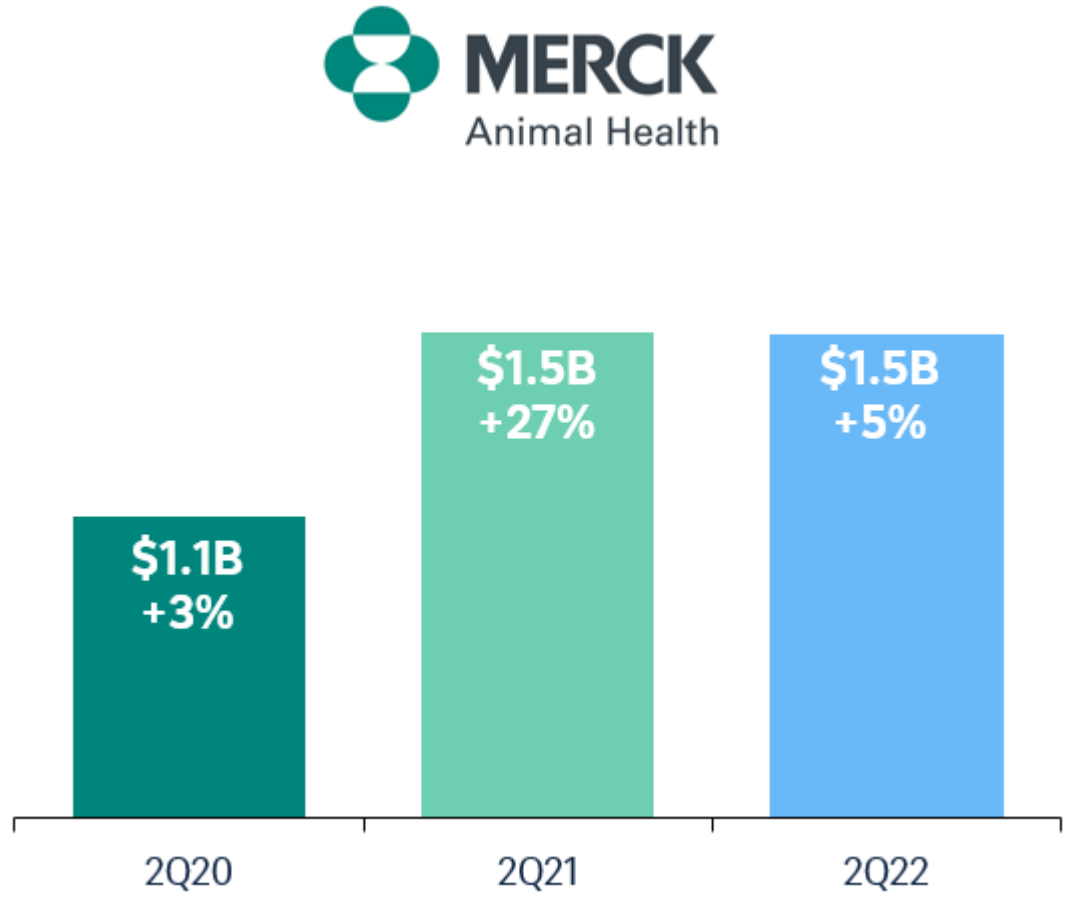




Increase/decrease in sales exclude the impact of foreign exchange.

Animal Health: Solid demand driven growth

- Animal Health sales increased 5% to $1.5B, reflecting growth
  - Livestock sales grew 6% reflecting higher demand globally for ruminants and poultry products
  - Companion Animal sales increased 3% due to higher global demand for the BRAVECTO parasiticide line of products



Growth rates exclude the impact of foreign exchange.

Q2 2022 continuing operations non-GAAP financial results summary: Delivered strong revenue and EPS growth

$ in billions, except EPS amounts

	Q2 2022	Q2 2021	Change	Change Ex-FX
Sales	$14.6	$11.4	+28%	+31%
Non-GAAP Gross Margin	74.7%	76.5%	-1.8pts	-2.5pts
Non-GAAP Operating Expenses	$5.2	$6.6	-21%	-19%
Non-GAAP Tax Rate	13.8%	26.7%	-12.9pts	N/A
Non-GAAP EPS that excludes certain items	$1.87	$0.61	+>100%	+>100%

Merck is providing certain 2022 and 2021 non-GAAP information that excludes certain items because of the nature of these items and the impact they have on the analysis of underlying business performance and trends. Management believes that providing this information enhances investors' understanding of the company's results because management uses non-GAAP results to assess performance. Management uses non-GAAP measures internally for planning and forecasting purposes and to measure the performance of the company along with other metrics. In addition, senior management's annual compensation is derived in part using a non-GAAP pre-tax income metric. This information should be considered in addition to, but not as a substitute for or superior to, information prepared in accordance with GAAP. For a description of the non-GAAP adjustments, see Table 2a attached to the press release. 2021 non-GAAP results have been recast to reflect R&D business development charges related to Pandion, VelosBio and OncoImmune totaling $1.8bn. This reduced previously reported second-quarter 2021 non-GAAP EPS of $1.31, resulting in revised non-GAAP EPS of $0.61.

Merck updated full-year 2022 guidance

	Prior Guidance	Updated Guidance	Key Assumptions
Revenue	$56.9B to $58.1B +17% to +19% (+19% to +21% ex-FX)	$57.5B to $58.5B +18% to +20% (+21% to +23% ex-FX)	• +13% to +14% excluding LAGEVRIO and FX impact • Includes $5.0 to $5.5 billion of LAGEVRIO revenue • Assumes ~3% negative FX impact (vs. prior ~2% negative FX impact)
Non-GAAP Gross Margin Rate[1]	74.0% - 74.5%	74.0% - 74.5%	
Non-GAAP Operating Expenses[2]	$20.3B to $21.3B	$20.5B to $21.5B	• Includes upfront payment from recently announced collaboration with Orion
Other (Income) / Expense	~$350M of expense	~$500M of expense	• Reflects higher than anticipated pension settlement expense
Tax Rate[3]	~13.5-14.5%	~13.5-14.5%	
Shares Outstanding	~2.53B	~2.54B	
GAAP EPS	$5.90 to $6.02	$5.89 to $5.99	
Non-GAAP EPS[4,5]	$7.24 to $7.36	$7.25 to $7.35	• Assumes ~3% negative FX impact (vs. prior ~2% negative FX impact)

1. GAAP Gross Margin Rate: ~69%. 2. GAAP Operating Expenses: $21.0 to $22.0 billion. 3. GAAP Tax Rate: ~12.0% - 13.0% 4. The GAAP to non-GAAP reconciliation is available in Merck's Q2 2022 earnings release 5. Beginning in 2022, Merck no longer excludes expenses for upfront and milestone payments related to collaborations and licensing agreements, as well as charges related to pre-approval assets obtained in transactions accounted for as asset acquisitions from its non-GAAP results. Prior periods have been recast to reflect this change

Key modeling considerations

COVID-19 Impact

- Pandemic unfavorably impacted 1H 2021 sales by ~$1.0B, providing a tailwind to 1H 2022 growth
- Expect tailwind to year-over-year growth to lessen over the remainder of 2022

Other Revenue

- Includes ongoing supply sales to OGN and JNJ, revenue hedging program and out-license receipts
- Expect Other Revenue to be higher in 2H vs 1H 2022

Pneumococcal

- Expect continued impact to PNEUMOVAX23 in the U.S. as market shifts toward newer pneumococcal conjugate vaccines

Animal Health

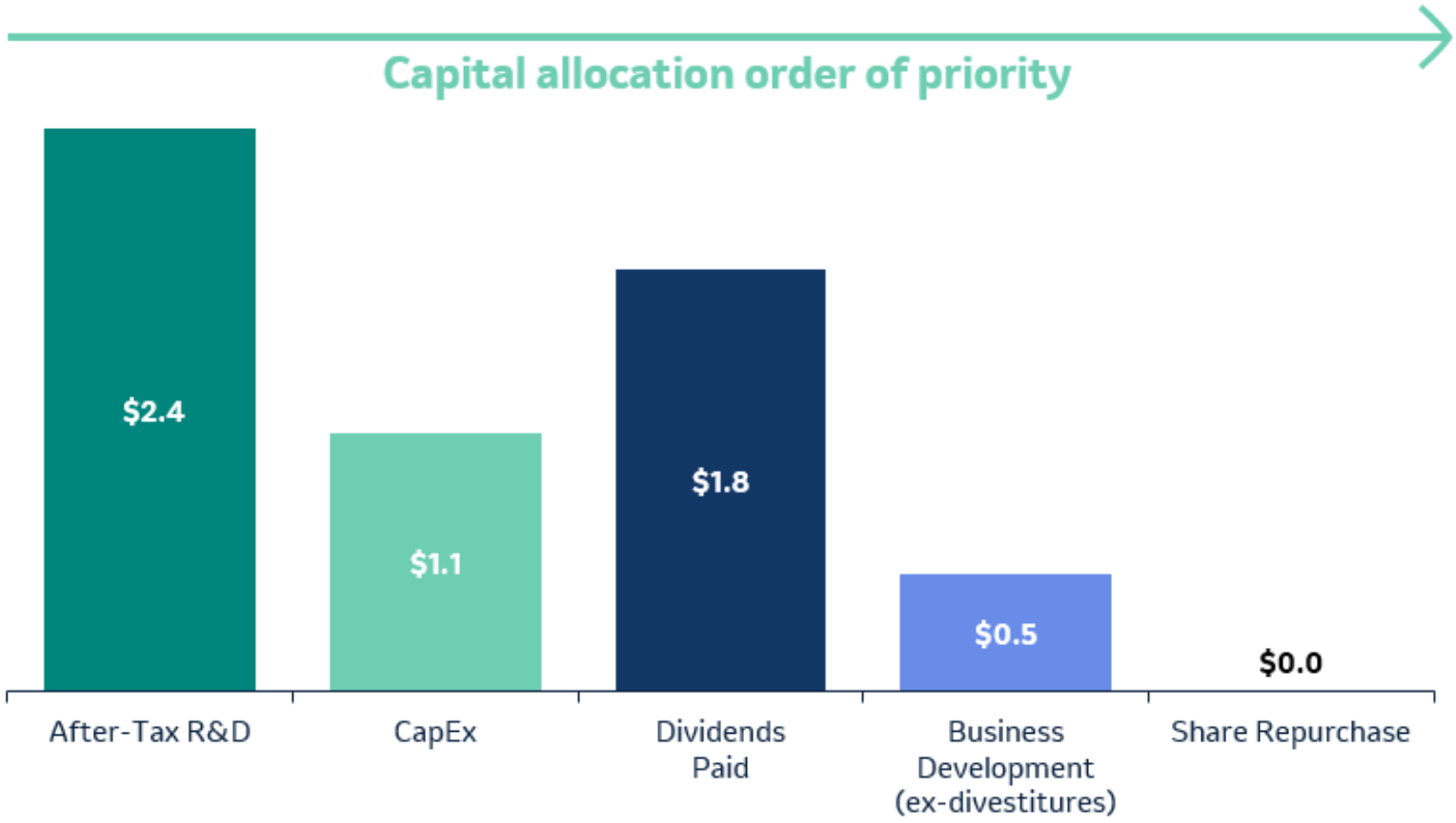
- Normalization of favorable companion animal industry trends
- Expect foreign exchange headwinds given geographic mix
- Expect above market growth in 2022

LAGEVRIO

- Maintain full year guidance of $5.0B to $5.5B
- Expect 2H 2022 sales to be weighted to 4Q

Remain committed to balanced capital allocation strategy

$ Billions[1]



Continue to prioritize investments in our **pipeline** and **business** to realize value of near- and long-term opportunities

1. Reflects Q2 spend

MERCK
INVENTING FOR LIFE

Research Update

Dr. Dean Li
President, Merck Research Laboratories

Driving value for patients and shareholders by progressing our pipeline

Key regulatory milestones since the last earnings call:

- In the US:
  - Received FDA approval and ACIP unanimously voted to provisionally recommend VAXNEUVANCE as an option for the prevention of invasive pneumococcal disease in infants and children
  - FDA accepted for review a new sBLA seeking approval for KEYTRUDA in KN-091 for the adjuvant treatment of patients with stage IB (>4 centimeters), II or IIIA NSCLC
- In the EU:
  - Received 4 EMA approvals for KEYTRUDA: in cervical cancer based on KN-826; in MSI-H or dMMr tumors in five different cancer types based on KN-164 and KN-158; and as adjuvant treatment for patients 12 years and older with completely resected stage IIB or IIC melanoma based on KN-716[2]
  - Received positive CHMP opinion for Lynparza in adjuvant breast cancer based on OlympiA
- In China:
  - Received approval for Verquvo[1] in certain patients with chronic heart failure and reduced ejection fraction

Key data & clinical advancements since the last earnings call:

- Presented data across broad oncology portfolio at ASCO, including for KEYTRUDA (KN-716, KN-522, KN-826) as well as Phase 1/2 data for favezelimab (anti-LAG-3) in classical Hodgkin lymphoma
- Presented positive results at ISPPD from the Phase 1/2 study, evaluating the safety, tolerability and immunogenicity of V116; initiated Phase 3 clinical trials
- Positive readout for KEYTRUDA + Padcev (KN-869 or EV-103) in first line urothelial cancer in patients ineligible to receive cisplatin-based chemotherapy[3]

[1]Partnered with Bayer [2]Approved as monotherapy for the treatment of certain adult patients with microsatellite instability-high (MSI-H) or mismatch repair deficient (dMMR) tumors for five types of cancer: unresectable or metastatic colorectal, gastric, small intestine or biliary cancer, as well as advanced or recurrent MSI-H/dMMR endometrial cancer [3]In collaboration with Seagen and Astellas

Advancing population-specific pneumococcal vaccine development program

Adult

VAXNEUVANCE Adult (PCV15)

Recommended for use in sequence with PNEUMOVAX 23

Approved 2021

V116 (PCV21)

Investigational candidate specifically targeting adult disease and covering serotypes that account for 85% of all invasive pneumococcal disease in US adults ages ≥65[1]

Enrolled first patient in Phase 3 trial (STRIDE-3)

Pediatric

VAXNEUVANCE Pediatric (PCV15)

Expanding coverage while maintaining protection against historically invasive disease-causing serotypes in children

Approved 2022

V117

Investigational candidate specifically targeting pediatric disease

Phase 1 in progress

[1] Centers for Disease Control and Prevention, IPD serotype data 2019, as compiled from data provided through Active Bacterial Core surveillance (ABCs).

Continuing to build on momentum in oncology

Earlier-stage

- **Broadest** IO clinical development program
- **KN-091** for adjuvant treatment of certain patients with stage IB to IIIA NSCLC[1] following complete surgical resection under FDA review
- **Expanded analyses** and data on **new endpoints** and **key subgroups** presented at ASCO
  - **KN-716**: adjuvant therapy for certain patients with stage IIB and IIC melanoma
  - **KN-522**: neoadjuvant / adjuvant high risk early stage TNBC
  - **KN-564**: adjuvant treatment for RCC at intermediate-high or high risk of recurrence post nephrectomy

Global highlights

- **Four EMA approvals** for KEYTRUDA
  - **KN-716**: adjuvant therapy for patients 12 years and older with completely resected stage IIB and IIC melanoma
  - **KN-522**: neoadjuvant / adjuvant high risk early stage TNBC
  - **KN-164 and KN-158:** MSIH and dMMR in 5 different cancer types[1]
  - **KN-826**: certain types of persistent, recurrent or metastatic cervical cancer
- **Positive CHMP opinion** for Lynparza for adjuvant treatment of breast cancer based on **OlympiA**[2]
- **Positive topline** results announced in Phase 1b/2 study of KN-869 or EV-103 in first line treatment of certain patients with advanced urothelial cancer in collaboration with Seagen and Astellas

Prostate cancer

- **Executing** on business development and licensing strategy
  - Collaboration with Orion for ODM-208 an investigational oral, steroid synthesis inhibitor
- **Complements** broad program including combinations with chemotherapy and anti-androgen therapy (KN-921, KN-641, KN-991, PROpel)

[1] Cancer types include certain unresectable or metastatic colorectal cancer; advanced or recurrent endometrial carcinoma; unresectable or metastatic gastric, small intestine or biliary cancer
[2] For adjuvant treatment of patients with germline BRCA-mutated (gBRCAm), human epidermal growth factor receptor 2 (HER2)-negative high-risk early breast cancer who have been treated with neoadjuvant or adjuvant chemotherapy

LAGEVRIO represents an important treatment option against COVID-19 for high-risk, non-hospitalized patients

- Pandemic continues to evolve with **regional surges**
- Emerging evidence of the **threat of resistance** to antibody therapies with new variants
- LAGEVRIO is **well-positioned** to play a role for appropriate high-risk patients due to its key attributes:
  - **Oral** treatment option
  - **Low** propensity for **drug-drug interactions**
  - **High barrier** to resistance
- **Real-world data** from Denmark, Hong Kong and Poland support utility of LAGEVRIO

MERCK
INVENTING FOR LIFE

Q&A

Rob Davis
President & Chief Executive Officer

Caroline Litchfield
Chief Financial Officer

Dr. Dean Li
President, Merck Research Laboratories

Peter Dannenbaum
Vice President, Investor Relations

Appendix

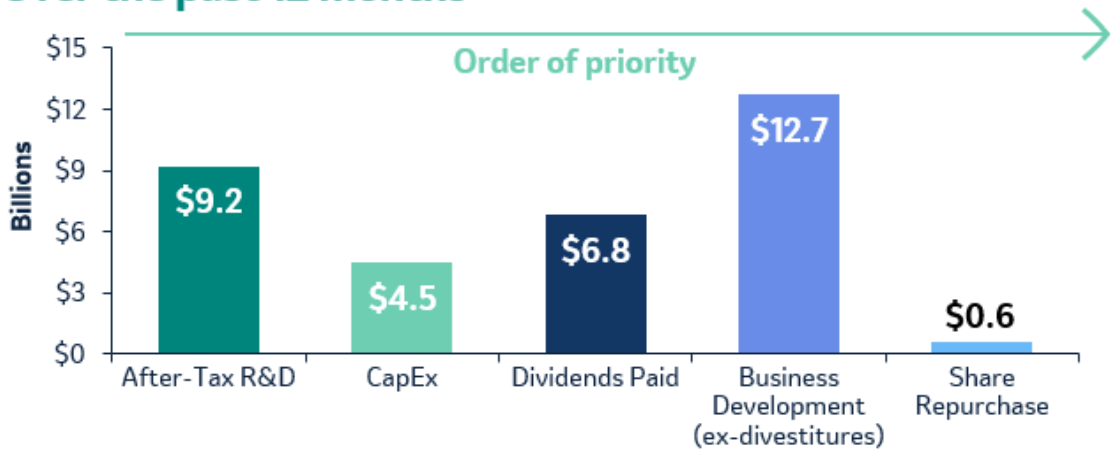
Q2 2022 continuing operations GAAP financial results summary

$ in billions, except EPS amounts

	Q2 2022	Q2 2021	Change	Change Ex-FX
Sales	$14.6	$11.4	+28%	+31%
Operating Expenses	$5.3	$6.6	-20%	-18%
Tax Rate	12.0%	29.3%	-17.3pts	N/A
GAAP EPS	$1.55	$0.48	+>100%	+>100%

Capital allocation: Trailing twelve months

Over the past 12 months



Well positioned balance sheet with capacity to fund **additional value-enhancing business development** opportunities

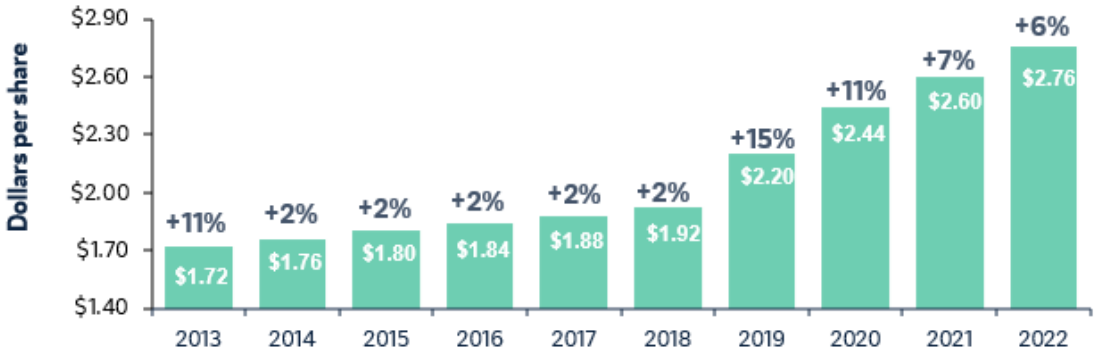
Capital investments

2022 to 2026

~$16B

Over 5 years, including expanding manufacturing capacity for Oncology, Vaccines, and Animal Health. Includes >$10B in the U.S.

Commitment to the dividend



Broad and innovative pipeline to solve significant unmet medical needs

Phase 2

Oncology

MK-0482
NSCLC

MK-1026 (nemtabrutinib)
Hematological Malignancies

MK-1308 (quavonlimab)
NSCLC

MK-1308A (quavonlimab +pembrolizumab)
Advanced Solid Tumors
HCC
CRC
SCLC
Melanoma

MK-2140 (zilovertamab vedotin)
Breast
Gastric
Ovarian
Pancreas
NSCLC
Hematological Malignancies
Solid Tumors

MK-2870
Neoplasm Malignant

KEYTRUDA (MK-3475)
Advanced Solid Tumors

MK-4280 (favezelimab)
NSCLC
Hematological Malignancies

MK-4280A (favezelimab+pembrolizumab)
RCC
SCLC

MK-4830
NSCLC
SCLC
RCC
CRC
Melanoma

MK-5684
Neoplasm Malignant

MK-5890
NSCLC
SCLC

MK-6440 (ladiratuzumab vedotin)
Breast
NSCLC
SCLC
HNSCC
Esophageal
Gastric
Prostate
Melanoma

WELIREG (MK-6482)
Rare Cancers
CRC
Pancreatic
Biliary
HCC
Certain VHL tumors (EU)

LYNPARZA (MK-7339)
Advanced Solid Tumors

LENVIMA (MK-7902)
Biliary
Glioblastoma
Prostate
SCLC
Pancreas

MK-7684 (vibostolimab)
Melanoma

MK-7684A (vibostolimab +pembrolizumab)
Biliary
Cervical
CRC
Esophageal
Breast
HNSCC
HCC
Endometrial
Prostate
Hematological Malignancies

TUKYSA (MK-7119)
Advanced Solid Tumors
CRC
Gastric
Endometrial
NSCLC
Bladder
Biliary
Cervical

V937
Melanoma
Breast
CSCC
HNSCC
Solid Tumors

Vaccines

V184
Chikungunya Virus

Cardiovascular

MK-0616
Hypercholesterolemia

MK-2060
Cardiovascular

MK-5475
Pulmonary Arterial Hypertension

Neuroscience

MK-8189
Schizophrenia

Infectious diseases

MK-8591B (islatravir+MK-8507)[1]
HIV-1 Infection

MK-8591D (islatravir+lenacapavir)[1]
HIV-1 Infection

General medicine

MK-1942
Treatment Resistant Depression

MK-3655
NASH

MK-6024
NASH

MK-7075
Overgrowth Syndrome

Phase 3

Oncology

KEYTRUDA (MK-3475)
Biliary Tract
CSCC (EU)
Gastric (EU)
Hepatocellular (EU)
Mesothelioma
Ovarian
Prostate
SCLC

MK-1308A (quavonlimab +pembrolizumab)
RCC

MK-7684A (vibostolimab +pembrolizumab)
NSCLC
SCLC

MK-4280A (favezelimab +pembrolizumab)
CRC

LENVIMA (MK-7902)
HNSCC
Melanoma
CRC
Esophageal
NSCLC
Gastric

LYNPARZA (MK-7339)
NSCLC
SCLC

WELIREG (MK-6482)
RCC

TUKYSA (MK-7119)
Breast

MK-3475 (pembrolizumab subcutaneous)
NSCLC

Infectious diseases

Islatravir (MK-8591)[1]
HIV-1 prevention

MK-8591A (doravirine+islatravir)[1]
HIV-1 Infection

Molnupiravir (MK-4482)
COVID-19 antiviral

Vaccines

MK-1654
Respiratory Syncytial Virus

V116
Pneumococcal vaccine, adult

Cardiovascular

Sotatercept (MK-7962)
Pulmonary Arterial Hypertension

Under regulatory review

Oncology

KEYTRUDA (MK-3475)
Cervical (JPN)
Adjuvant RCC (JPN)
High-risk early stage TNBC (JPN)
2L HCC (US)
Adjuvant NSCLC (US, EU)

LYNPARZA (MK-7339)
Metastatic 1L Prostate (EU, JPN)
BRCA-mutated HER2-negative adjuvant Breast (EU, JPN)

LENVIMA (MK-7902)
1L HCC (US)

Vaccines

V114
Pneumococcal Vaccine, adult (JPN)

General medicine

Gefapixant (MK-7264)
Cough (US, EU)

Infectious diseases

Molnupiravir (MK-4482)[2]
COVID-19 antiviral (EU)

1. On clinical hold [2] U.S. NDA has not been filed

As of July 28, 2022