Merck Pipeline

November 1, 2018

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Lead-in Language

The chart below reflects the Company's research pipeline as of **November 1, 2018**. Candidates shown in Phase 3 include specific products and the date such candidate entered into Phase 3 development. Candidates shown in Phase 2 include the most advanced compound with a specific mechanism or, if listed compounds have the same mechanism, they are each currently intended for commercialization in a given therapeutic area. Small molecules and biologics are given MK-number designations and vaccine candidates are given V-number designations. Except as otherwise noted, candidates in Phase 1, additional indications in the same therapeutic area (other than with respect to *Oncology*) and additional claims, line extensions or formulations for in-line products are not shown.

Merck Pipeline as of November 1, 2018

Phase 2	Phase 2	Phase 3	Phase 3	Phase 3
Cancer **Advanced solid tumors** **Cutaneous Squamous Cell Carcinoma** **Ovarian** **Prostate** **KEYTRUDA®** **MK-3475**	Diabetes mellitus **MK-8521[2]**	Bacterial infection **relebactam+ imipenem/cilastatin** **MK-7655A**	Cough **gefapixant** **MK-7264**	Heart failure **vericiguat** **MK-1242[1]**
Cancer **Biliary Tract** **Non-Small Cell Lung** **LENVIMA®** **MK-7902[1]**	HIV-1 infection **MK-8591**	Cancer **Breast** **Colorectal** **Esophageal** **Gastric (EU)** **Hepatocellular (EU)** **Nasopharyngeal** **Renal** **Small Cell Lung** **Mesothelioma** **KEYTRUDA®** **MK-3475**	Ebola vaccine **V920**	Herpes zoster inactivated VZV vaccine **V212[2]**
Cancer **Melanoma** **CAVATAK®** **V937**	Schizophrenia **MK-8189**	Cancer **Endometrial** **LENVIMA®** **MK-7902[1,4]**	HABP/VABP[3] **SIVEXTRO®** **MK-1986**	Pneumoconjugate vaccine **V114**
Cytomegalovirus vaccine **V160**	Pediatric neurofibromatosis type-1 **selumetinib** **MK-5618[1]**	Cancer **Pancreatic** **Prostate** **LYNPARZA®** **MK-7339[1]**	HABP/VABP[3] **ZERBAXA®** **MK-7625A**	▶ Moved forward since last pipeline update.
▶ Cancer Colorectal Cancer **MK-7690[4]**	▶ Respiratory syncytial virus **MK-1654**			

1. Being developed in a collaboration.
2. Development is currently on hold.
3. HABP - Hospital-acquired bacterial pneumonia/ VABP - ventilator-associated bacterial pneumonia
4. Being developed in combination with Keytruda

Merck Pipeline as of November 1, 2018

New Molecular Entities Under Review	New Molecular Entities Under Review	New Molecular Entities Under Review	New Molecular Entities Approvals[1]	New Molecular Entities Approvals[1]	New Molecular Entities Approvals[1]
Pediatric hexavalent combination vaccine **V419**[2,3] **(US)**	HIV-1 infection **doravirine MK-1439 (EU)**	HIV-1 infection **doravirine/ lamivudine/ tenofovir disoproxil fumarate MK-1439A (EU)**	*Clostridium difficile* infection recurrence **ZINPLAVA™ MK-6072 (EU)**	Diabetes mellitus **SUJANU® sitagliptin+ ipragliflozin MK-0431J (Japan)**[3]	Diabetes mellitus **STEGLUJAN™ ertugliflozin + sitagliptin MK-8835A (US, EU)**[3]
			Prevention of CMV infection/disease **PREVYMIS™ MK-8228 (US, EU)**	Diabetes mellitus **STEGLATRO™ MK-8835 (US, EU)**[3]	Diabetes mellitus **SEGLUROMET™ ertugliflozin + metformin MK-8835B (US, EU)**[3]
				▶ HIV-1 infection **PIFELTRO™ MK-1439 (US)**	▶ HIV-1 infection **DELSTRIGO™ MK-1439A (US)**

▶ Moved forward since last pipeline update.

1. Approvals obtained within the last 24 months.
2. Merck and Sanofi provided a response to the CRL, which was deemed complete and acceptable for review
3. Being developed in a collaboration

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Merck Pipeline as of November 1, 2018

Certain Supplemental Filings Under Review	Certain Supplemental Filings Under Review	Certain Supplemental Filings Under Review	Certain Supplemental Filings Under Review
2nd line metastatic breast cancer **LYNPARZA®** **MK-7339[1]** **(EU)**	Adjuvant therapy in advanced melanoma cancer (KN054) **KEYTRUDA®** **MK-345** **(US, EU)**	1st line metastatic squamous non-small cell lung cancer (KN407) **KEYTRUDA®** **MK-3475** **(EU)**	1st line merkel cell cancer (KN017) **KEYTRUDA®** **MK-3475** **(US)**
2nd line hepatocellular cancer (KN224) **KEYTRUDA®** **MK-3475** **(US)**	1st line metastatic non-small cell lung cancer (KN042) **KEYTRUDA®** **MK-3475** **(US, EU)**		

Moved forward since last pipeline update.

1. Being developed in a collaboration.

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Certain Supplemental Approvals[1]	Certain Supplemental Approvals[1]	Certain Supplemental Approvals[1]	Certain Supplemental Approvals[1]	Certain Supplemental Approvals[1]
Previously treated microsatellite instability-high cancer (KN158) **KEYTRUDA®** **MK-3475** **(US)**	2nd line metastatic bladder cancer (KN045) **KEYTRUDA®** **MK-3475** **(US, EU)**	1st line non-small cell lung cancer (KN024) **KEYTRUDA®** **MK-3475** **(EU)**	2-dose vaccination regimen for use in girls and boys 9-14 years of age **GARDASIL®9** **V503** **(US)**	1st line cisplatin-ineligible bladder cancer (KN052) **KEYTRUDA®** **MK-3475** **(US, EU)**
Combination with carboplatin and pemetrexed in 1st Line non-squamous non-small cell lung cancer (KN021G) **KEYTRUDA®** **MK-3475** **(US)**	In Combination with other antiretroviral agents, for the treatment of HIV-1 infection in newborns weighing at least 2 kg **ISENTRESS®** **MK-0518** **(US, EU)**	3rd line gastric cancer (KN059) **KEYTRUDA®** **MK-3475** **(US)**	Relapsed or refractory classical Hodgkin lymphoma (KN087) **KEYTRUDA®** **MK-3475** **(US, EU)**	Once-daily dosing option in combination with other antiretroviral agents for HIV-1 infection **ISENTRESS®** **MK-0518** **(ISENTRESS HD®)** **(US, EU)**
New tablet formulation and broader approval for ovarian cancer **LYNPARZA®** **MK-7339[2]** **(US, EU)**	2nd line metastatic breast cancer **LYNPARZA®** **MK-7339[2]** **(US)**	▶ 2nd line head and neck cancer (KN040) **KEYTRUDA®** **MK-3475** **(EU)**	2nd line cervical cancer (KN158) **KEYTRUDA®** **MK-3475** **(US)**	Relapsed or refractory Primary Mediastinal B-Cell Lymphoma (KN170) **KEYTRUDA®** **MK-3475** **(US)**
▶ Moved forward since last pipeline update. 1. Approvals obtained within the last 24 months. 2. Being developed in a collaboration.	1st line metastatic squamous non-small cell lung cancer (KN407) ▶ **KEYTRUDA®** **MK-3475** **(US)**	Use in Women and Men Ages 27 to 45 years of age ▶ **GARDASIL®9** **V503** **(US)**	Combination with carboplatin and pemetrexed in 1st Line non-squamous non-small cell lung cancer (KN189) ▶ **KEYTRUDA®** **MK-3475** **(US, EU)**	1st line unresectable hepatocellular cancer ▶ **LENVIMA®** **MK-7902[2]** **(US, EU)**

Forward-Looking Statement

This presentation includes “forward-looking statements” within the meaning of the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995. These statements are based upon the current beliefs and expectations of Merck’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 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; Merck’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 Merck’s patents and other protections for innovative products; and the exposure to litigation, including patent litigation, and/or regulatory actions.

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No Duty to Update

The information contained in the presentation set forth below was current as of November 1, 2018. While this presentation remains on the company's website the company assumes no duty to update the information to reflect subsequent developments. Consequently, the company will not update the information contained in the presentation and investors should not rely upon the information as current or accurate after November 1, 2018.

The chart reflects the Merck research pipeline as of November 1, 2018.

Candidates shown in Phase III include specific products. Candidates shown in Phase II include the most advanced compound with a specific mechanism in a given therapeutic area. Phase I candidates are not shown.

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