Good morning everyone. Welcome to Merck’s investor call highlighting the announced acquisition of Prometheus Biosciences.

Our agenda this morning includes Rob Davis, Merck’s Chairman and Chief Executive Officer, who will lead off our presentation.

Rob will be followed by Dr. Dean Li, President of Merck Research Labs; Dr. Eliav Barr, Chief Medical Officer and Head of Global Clinical Development; Chirfi Guindo, Chief Marketing Officer of Human Health; and Caroline Litchfield, Chief Financial Officer.

Q&A will follow the presentation.

Merck & Co., Inc. (“Merck”), through a subsidiary, has agreed to acquire Prometheus Biosciences, Inc. (“Prometheus Biosciences”). The acquisition is subject to Prometheus Biosciences’ shareholder approval. The closing of the transaction will be
subject to certain conditions, including the expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act and other customary conditions. A copy of the merger agreement pursuant to the transaction will be filed with the Securities and Exchange Commission (“SEC”) and will be publicly available. In addition, Merck and Prometheus Biosciences file annual, quarterly and current reports and other information with the SEC, which are available to the public from commercial document-retrieval services and at the SEC’s website at www.sec.gov. Copies of the documents filed with the SEC by Merck may be obtained at no charge on Merck’s internet website at www.merck.com or by contacting Merck at 2025 E Scott Ave, Rahway, N.J. 07033 or (908) 423-1000. Copies of the documents filed with the SEC by Prometheus Biosciences may be obtained at no charge on Prometheus Biosciences’ internet website at www.prometheusbiosciences.com Science Park Rd, San Diego, C.A. 92037 or (858) 824-0895.

SLIDE 4: Forward Looking Statement

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, 2022 and the company’s other filings with the Securities and Exchange Commission (SEC) available at the SEC’s Internet site (www.sec.gov).

The slide deck being used for today’s call has been posted to our website.

With that I will turn the call over to Rob…
Thanks, Peter. Good morning everyone.

Merck has made tremendous progress toward our strategic priorities. We’ve made significant advancements across our broad pipeline, executing on our goal of bringing forth innovations that address unmet patient needs. We’ve achieved commercial success and very strong financial performance. And we’ve enhanced our internal efforts with significant business development, bringing in several, novel late-stage compounds that augment and complement our pipeline. We’ve come a long way in a short period of time, and remain committed to doing more.

So today I’m very pleased to speak to you about the acquisition of Prometheus Biosciences. This transaction is another example of our company acting decisively when compelling science and value align. Prometheus brings us a potential first-in-class and best-in-class, late-stage immunology treatment, with the opportunity to positively impact the significant needs of patients who suffer from these debilitating diseases.
Immunology is an important area of significant unmet medical need, and we’re very pleased to be taking a major step forward in complementing our existing programs and accelerating our presence.

This transaction adds further diversity to our overall portfolio and is an important building block as we strengthen the sustainable innovation engine that will drive our long-term success.

Prometheus’ lead candidate is PRA023, which works via a novel mechanism of action and has demonstrated strong proof-of-concept results in ulcerative colitis and Crohn’s disease. PRA023 has the potential to be a foundational treatment and transform standard of care for these patients, including through a precision medicine approach.

Dean and Eliav will speak more about the strength of the science and clinical progress achieved to-date, as well as our plans to advance this candidate toward approval.

Given the substantial unmet need in a large patient population globally, should Phase 3 trials be successful, we believe PRA023 has multi-billion dollar peak commercial sales potential and can be a significant driver of revenue growth through the next decade. We are confident this transaction has the potential to create meaningful long-term value for patients and, in turn, for shareholders.

We are well positioned financially to complete this transaction while maintaining our ability to pursue additional business development opportunities. More broadly for
Merck, we will continue to bring in the best external science that builds upon and complements our strong and growing internal research pipeline.

We are excited to bring in the strong science and talented people of Prometheus to Merck. This adds to our growing list of important recent business development transactions and collaborations, including Kelun, Imago, Moderna, Orion and Acceleron. We remain highly focused on delivering innovative medicines and vaccines that address important unmet needs, both through our expansive internal research efforts as well as via strategic business development, and on sustaining our success over the long-term.

With that, let me turn the call over to Dean…

Dean Li

SLIDE 7: Scientific Overview (Head Shot)

Thank you, Rob. Good morning, everyone.

It is great to be here with you this morning to speak about the announcement.

SLIDE 8: Prometheus is well-aligned to Merck’s R&D strategy
Our R&D strategy starts with our unwavering focus on translating breakthrough science into medicines and vaccines that save and improve lives. This is centered around the patient and anchored on innovation with novel mechanisms that provide the opportunity to potentially transform the standard of care.

We are excited by the expertise and technology that Prometheus brings and the potential for Merck to further advance the science to improve outcomes for patients with immune-mediated inflammatory diseases.

We see tremendous value in bringing our two companies together to further augment and accelerate our research efforts in immunology, a therapeutic area which, despite the availability of multiple treatment options, has significant need for additional innovation.

Furthermore, we are always seeking opportunities to leverage precision medicine and biomarkers where applicable to improve patient selection and outcomes.

Together, we have a unique opportunity to make a difference in treating these devastating diseases.

**SLIDE 9: IBD is a devastating disease in need of new treatment options for patients**

As Rob noted, inflammatory bowel disease remains an area of significant unmet medical need. Ulcerative colitis and Crohn’s disease, the two main forms of IBD, can be debilitating and severely impact the quality of life for patients.
Patients are at an elevated risk of colon cancer which continues to increase with the extent and duration of disease.

A majority of patients with UC who experience active disease in a given year will have a recurrence the following year.

The current treatment paradigm often involves patients having to cycle through therapies due to sub-optimal responses and poor tolerability.

Patients with serious disease can be frequently hospitalized and ultimately, for those with severe disease who have exhausted therapeutic options, surgery is the only option.

**SLIDE 10:** *Prometheus complements and accelerates Merck’s immunology presence*

We need to do better for these patients.

And that is why we are excited by the potential to provide a novel treatment option with Prometheus’ anti-TL1A antibody.

Work conducted by Prometheus founder, Dr Stephan Targan’s lab, at Cedar Sinai was instrumental to elucidating the role of TL1A in inflammation and fibrosis and identifying its therapeutic potential through his pioneering work conducting analysis of a comprehensive BioBank of IBD tissue samples. Further genomic and preclinical
studies reinforced the role of TL1A in development and pathogenesis of additional immune related conditions.

This work also points to the opportunity to use a genetic biomarker to identify those patients most likely to respond to PRA023. This contrasts with current therapies and enables the development of a risk stratification approach.

This is potentially transformational in treating patients with certain immune-mediated diseases.

We look forward to further expanding on the compelling work accomplished by the talented Prometheus team and I want to emphasize the important strengths that will help Merck enhance and accelerate our immunology presence.

We have deep expertise in clinical development and the ability to scale globally. We also have extensive experience with a proven track record of developing and implementing precision medicine strategies. And finally, and perhaps most importantly, we have an extremely talented and motivated team dedicated to utilizing Merck’s expansive capabilities to advance important new therapies.

I am confident that as one company, we will be able to leverage our strengths and better serve patients.

With that I’ll turn the call over to Eliav who will provide a deeper look into the clinical profile of Prometheus’ pipeline...
Thank you, Dean..

Today is a very exciting day for Merck. As you have heard from Rob and Dean, Prometheus offers compelling science with novel therapeutic and diagnostic products and we are looking forward to building on the important work they have accomplished.

**SLIDE 12: PRA023 has potential to be the first and best TL1A inhibitor**

Starting with the TL1A target...

Tumor necrosis factor-like ligand 1A, a circulating protein, and its receptor DR3, have been implicated as central mediators of the abnormal inflammation and fibrosis that characterizes many autoimmune diseases. There is high expression of TL1A in patients with these diseases, particularly in ulcerative colitis and Crohn’s disease. Stimulation of DR3 by TL1A results in proliferation of anti-self T-cells, many of which express inflammatory cytokines. This stimulation also induces fibroblast proliferation, which can cause scarring and strictures in affected portions of the intestinal tract.
PRA023, the lead compound of Prometheus, is an IgG1 humanized monoclonal antibody that has been shown to block TL1A, preventing stimulation of the DR3 receptor.

PRA023 is therefore a potential first-in-class late-stage clinical candidate with a unique dual mechanism of action: it is anti-inflammatory and it is anti-fibrotic. With these properties, PRA023 has the potential to substantially improve outcomes for patients with ulcerative colitis, Crohn’s Disease and other immune-mediated inflammatory diseases.

The Phase 2 data for PRA023 demonstrated remarkable efficacy across patient segments in ulcerative colitis and Crohn’s Disease. PRA023 also had a favorable safety and tolerability profile.

As Dean noted, Prometheus has used precision medicine to identify a proprietary biomarker that may identify patients who may benefit even further from treatment with the drug.

I will now review the results of the Phase 2 program that has gotten us, and the field, so excited about PRA023.

**Slide 13: ARTEMIS-UC Phase 2 study design**

First with the study design for the Phase 2 ARTEMIS trial in ulcerative colitis...
Now, this was a 12-week, double-blind, placebo-controlled, randomized study to evaluate the efficacy and safety of PRA023 in patients with moderate-to-severely active ulcerative colitis.

The goal of the study was to determine whether PRA023 could induce remission of ulcerative colitis signs and symptoms in patients with moderately or severely active disease, including those who failed prior therapy with biologics.

A total of 135 patients were randomized 1:1 to either PRA023 or placebo administered IV. The primary endpoint point was clinical remission at Treatment Week 12 using a standard endpoint, the 3-component Modified Mayo Score. Secondary endpoints included measures of inflammation, symptoms, and patient-reported outcomes.

Cohort 2 which is ongoing is evaluating efficacy in biomarker positive patients.

**SLIDE 14: ARTEMIS-UC Phase 2 study showed strong efficacy across primary and secondary endpoints**

The study met its primary endpoint and secondary endpoints including endoscopic improvement and clinical response in patients with active ulcerative colitis.

After adjusting for placebo response, patients who received PRA023 experienced:

- An absolute 25% improvement in the protocol-defined primary endpoint
- Improvement in secondary endpoints, including:
- An absolute 30.8% increase in the proportion of patients meeting endoscopic improvement
- An absolute 43.8% improvement in patients experiencing a clinical response

Importantly, with an eye to the profiles of currently available treatments, no safety concerns were identified.

**SLIDE 15: APOLLO-CD Phase 2a study design**

Next to the APOLLO-CD study, which was a Phase 2a, single-arm, open-label study designed to evaluate the safety, efficacy, and pharmacokinetics of PRA023 in patients with moderately to severely active Crohn's Disease.

The primary outcome measures included safety and tolerability as well as endoscopic improvement at Week 12.

There were several secondary outcome measures including clinical remission, clinical response, endoscopic and clinical improvement as well as biomarker mediated clinical improvement.

This trial enrolled a highly refractory patient population with 71% of patients previously treated with at least one biologic therapy and 53% previously treated with two or more biologic therapies.
Given that the study evaluated highly refractory patients with severe signs and symptoms, all patients received active drug, and efficacy was assessed against historical controls.

**SLIDE 16: APOLLO-CD Phase 2a study showed strong efficacy across primary and secondary endpoints**

Now the results are shown here...

Of the patients who received PRA023, on a placebo-adjusted basis using historical controls, at 12 weeks:

- 14% of patients achieved the primary endpoint of endoscopic response and
- 33% of patients achieved the secondary endpoint of clinical remission

And again, there were no safety concerns identified.

**SLIDE 17: Phase 2 PRA023 data suggests UC and CD remission rates comparable or superior to available therapies, on a cross-trial comparison basis**

To put the results in ulcerative colitis and Crohn’s Disease in perspective, we have provided a side-by-side display of the placebo-adjusted clinical remission rates for existing therapies compared to PRA023’s Phase 2 results in both diseases. Of course, cross-trial comparisons should be done with caution, but it’s important to note the trials in the slide were generally comparable to the study design of the ARTEMIS PRA023 studies.
In the side-to-side comparison, PRA023’s Phase 2 efficacy compares favorably to the efficacy leading approved agents across both diseases. PRA023 appears comparable to upadacitinib, or RINVOQ, which is one of the most potent anti-IBD agents developed to date. Of note, PRA023 to date has a differentiated, favorable safety profile when compared to the JAK inhibitors such as upadacitinib, which has a black box warning due to potentially fatal cardiovascular events, thrombosis and malignancies.

**SLIDE 18: Interim Analysis showed clinical remission in biomarker positive sub-population in UC**

Next, I want to highlight data that will provide insight into how a precision-based approach has the potential to transform the treatment of ulcerative colitis.

An interim analysis was performed on the ARTEMIS-UC study to evaluate the effectiveness of PRA023 in a biomarker positive sub-population. Though in limited patient numbers, data from the subset of 32 patients from the ARTEMIS study in ulcerative colitis demonstrated a placebo-adjusted clinical remission rate of 37.5%, a striking 1.5 fold or 12.5% absolute improvement compared with the placebo-adjusted remission rate of 25% for all-comers. These are unprecedented results and the prevalence of biomarker positivity was approximately 24%. So the optional use of this biomarker can provide physicians with confidence in ensuring that acutely ill patients are getting the right drug at the right time.
An expansion cohort of the ARTEMIS trial in ulcerative colitis, which is statistically powered to further assess the treatment effect of PRA023 in a biomarker positive patient population will continue to enroll and we look forward to gathering further insights from that data in the second quarter of this year.

Given Merck’s strong track record and steadfast commitment to using precision medicine to inform and develop treatment strategies in the immuno-oncology space, I am excited and confident in our ability to build and execute on the great foundation set by Prometheus. More importantly, this work will potentially lead to better outcomes for patients.

**SLIDE 19: Continued progress across PRA023 program**

I also wanted to provide insights into the continued progress across the development program for PRA023.

We have the ongoing maintenance portion of the Phase 2 ARTEMIS study in UC as well as the APOLLO study in Crohn’s Disease. While it is still early, we are encouraged by the response we are seeing to date.

Next, I also want to highlight the recent end of Phase 2 study meeting with the FDA. We’re encouraged by the productive discussions which have taken place with the FDA and we look forward to initiating our Phase 3 development program.
Prometheus is highly complementary to and strengthens our existing immunology portfolio and pipeline

With the addition of Prometheus’ pipeline, Merck has built a robust immunology clinical development program with the potential to make a substantial impact in this area of high unmet need.

As mentioned, following the completion of the Phase 2 studies for PRA023, we look forward to initiating the Phase 3 development program late this year or early 2024.

We also plan to share data from PRA052, an anti-CD30 ligand monoclonal in Phase 1 studies, once available.

And finally, we continue to advance MK-6194, an engineered IL-2 mutein fused to a protein backbone, which is expected to enter Phase 2 later this year in vitiligo, alopecia areata, systemic lupus erythematosus and atopic dermatitis.

Beyond the clinical stage pipeline, we have multiple candidates in preclinical development across our combined pipeline which we expect to enter the clinic in the coming years.

Lastly, we are excited by the potential of the Prometheus 360 Data Science Platform which enables a key link between genetics and biology to enable precision drug discovery and patient stratification. This will help us better inform how we target the right subset of patients who can benefit the most from certain treatments.
In closing, it is worth noting that our deep knowledge of immuno-oncology has led to important insights into the immune system. Therefore, two years ago we separated immunology as a therapeutic area of focus in discovery research. And with this commitment, we have diligently brought in key scientific talent who have vast experience in immunology.

Aileen Pangan, Vice President of Late-Stage Immunology, who is with us for our Q&A session, is an example of the key talent that we have attracted, having joined our company over a year ago. Aileen led the team that brought forth upadacitinib or Rinvoq. She along with others, brings a wealth of knowledge and invaluable expertise to Merck.

We are proud of the capabilities and expertise we have built across our organization and look forward to the addition of Prometheus which will complement and accelerate our efforts in immunology.

With that, I will turn the call over to Chirfi to provide a commercial overview…

Chirfi Guindo

SLIDE 21: Commercial Opportunity (Head Shot)

Thank you, Eliav.
Turning to the commercial prospects of the transaction.

**SLIDE 22: Significant unmet medical need remains in IBD**

As Dean described, there is significant remaining unmet need in inflammatory bowel disease, a chronic and disabling condition impacting approximately 2 million patients in the United States, of which nearly 1 million have moderate to severe disease. With no available cure, many of these patients face relapse and disease progression, making this a hugely devastating diagnosis that substantially impacts an individual's quality of life.

Today, treatment for inflammatory bowel disease is focused on delaying disease progression, managing symptoms, and reducing hospitalization. Unfortunately, existing therapies work only in a fraction of patients, with a high percentage becoming unresponsive to therapy. As a result, patients typically cycle through multiple treatment classes and physicians do not have an effective way to identify who will best respond to each therapy. In severe cases, patients face significant complications such as hospitalization due to flare ups and may require surgery. In addition, prolonged disease increases risk for developing colon cancer.

Given this paradigm, patients not only face mental stress and physical strain, but also social and economic burden with high cumulative costs over time. Patients, key opinion leaders, and payors recognize the need for additional and improved treatment options in this space.
PRA023 represents a potentially meaningful and durable commercial opportunity for Merck

We believe that PRA023 has the opportunity to potentially transform the standard of care based on the compelling evidence from the Phase 2 clinical trials, including potential best-in-class efficacy and safety. In addition, by utilizing a precision medicine approach, it is possible to identify those patients who can most benefit from this treatment.

Given the unmet need and large patient population, immunology is a substantial and growing commercial market, expected to reach $140 billion by 2028. Together, ulcerative colitis and Crohn’s disease represent approximately $23 billion of spend as of 2022 and is expected to grow to approximately $28 billion by 2028 with the introduction of new therapeutic options.

We believe PRA023 has the potential to become a foundational therapy in both UC and CD and see multi-billion-dollar peak sales opportunity in each of these indications. In addition, we aim to broaden the reach of PRA023 to help more patients by pursuing additional indications over time.

In the United States, patent exclusivity for PRA023 extends into the 2040’s. This treatment has the potential to become a significant growth driver for Merck well into the next decade.
To conclude, we are excited to build on the substantial progress that Prometheus has made to date and we plan to leverage Merck’s global scale and strong commercial capabilities to accelerate and expand access to this potentially transformative treatment for the benefit of patients.

With that, I will turn the call over to Caroline to highlight the financial aspects of the transaction...

Caroline Litchfield

SLIDE 24: Financial Overview (Head Shot)

Thank you, Chirfi.

SLIDE 25: Financial overview of the Prometheus Biosciences acquisition

As Rob said, Merck has executed exceptionally well and is in a strong financial position, allowing us to announce the acquisition of Prometheus while retaining significant capacity to pursue our capital allocation priorities, including future business development should additional attractive opportunities arise.

Given the substantial unmet need in a large patient population, and the potential for PRA023 to transform patient care, we believe this compound has multi-billion-dollar
peak revenue potential, and that it can be a significant driver of growth for Merck through the next decade.

Prometheus will also increase our portfolio and pipeline diversification, accelerating our efforts in an important disease area. We are confident that this transaction has the potential to create meaningful value for patients and shareholders.

Turning to the financial details of the transaction.

Merck has agreed to acquire all outstanding shares of Prometheus Biosciences for $200 dollars per share. This results in a total transaction value of approximately $10.8 billion dollars, or $10.3 billion dollars, net of approximately $650 million of cash and investments on Prometheus’ balance sheet, as well as other transaction related items. We have the flexibility to finance the transaction through cash on hand, commercial paper or opportunistic new debt issuance, and we expect no impact to our credit rating.

We anticipate the transaction will close in the third quarter of this year, subject to Prometheus shareholder approval and regulatory approvals.

We believe this transaction will negatively impact EPS by approximately $0.25 in the first 12 months, roughly one-third of which represents investment to advance pipeline assets and the remainder is the assumed cost of financing. In addition, we expect the transaction to be accounted for as an asset acquisition, which will therefore result in a charge recorded to this year’s research and development
expense of approximately $10.3 billion, or approximately $4.00 per share. The impact of this charge will be reflected in both our GAAP and non-GAAP results.

Our balanced approach to capital allocation remains intact. We will use our strong balance sheet and growing cash flow to continue prioritizing investment in our rich portfolio and pipeline. We remain committed to funding and growing our dividend over time. And we preserve the ability, within our strong investment-grade credit rating, to pursue additional value-enhancing and innovation-driven business development transactions, which remains an important priority. In addition, we intend to execute modest share repurchases this year.

Thank you for your attention. I will now turn the call back to Peter.