NOTE REGARDING FORWARD-LOOKING STATEMENTS AND NON-GAAP FINANCIAL MEASURES

This presentation includes forward-looking statements that involve risks and uncertainties relating to future events and the future performance of Regeneron Pharmaceuticals, Inc. ("Regeneron" or the "Company"), and actual events or results may differ materially from these forward-looking statements. Words such as "anticipate," "expect," "intend," "plan," "believe," "seek," "estimate," variations of such words, and similar expressions are intended to identify such forward-looking statements, although not all forward-looking statements contain these identifying words. These statements concern, and these risks and uncertainties include, among others, the nature, timing, and possible success and therapeutic applications of Regeneron’s products, product candidates, and research and clinical programs now underway or planned, including without limitation EYLEA® (aflibercept) Injection, Dupixent® (dupilumab) Injection, Praluent® (alirocumab) Injection, Kevzara® (sarilumab) Injection, Libtayo® (cemiplimab) Injection, fasinumab, evinacumab, Regeneron’s immuno-oncology programs (including its costindicatory bispecific portfolio), Regeneron’s earlier-stage product candidates, and the use of human genetics in Regeneron’s research programs; the extent to which the results from Regeneron’s research programs or preclinical testing may lead to advancement of product candidates to clinical trials or therapeutic applications; unforeseen safety issues resulting from the administration of products and product candidates in patients, including serious complications or side effects in connection with the use of Regeneron’s product candidates in clinical trials; the likelihood and timing of possible regulatory approval and commercial launch of Regeneron’s late-stage product candidates and new indications for marketed products, including without limitation EYLEA, Dupixent, Praluent, Kevzara, Libtayo, fasinumab, and evinacumab; the likelihood and timing of achieving any of the anticipated milestones described in this presentation; the extent to which the results from the research or the results of clinical studies conducted by Regeneron or its collaborators may be replicated in other studies and lead to therapeutic applications; ongoing regulatory obligations and oversight impacting Regeneron’s marketed products (such as EYLEA, Dupixent, Praluent, Kevzara, and Libtayo), research and clinical programs, and business, including those relating to patient privacy; determinations by regulatory and administrative governmental authorities which may delay or restrict Regeneron’s ability to continue to develop or commercialize Regeneron’s products and product candidates; competing drugs and product candidates that may be superior to Regeneron’s products and product candidates; uncertainty of market acceptance and commercial success of Regeneron’s products and product candidates and the impact of studies (whether conducted by Regeneron or others and whether mandated or voluntary) on the commercial success of Regeneron’s products and product candidates; the availability and extent of reimbursement of the Company’s products from third-party payers, including private payer healthcare and insurance programs, health maintenance organizations, pharmacy benefit management companies, and government programs such as Medicare and Medicaid; coverage and reimbursement determinations by such payers and new policies and procedures adopted by such payers; the ability of Regeneron to manufacture and manage supply chains for multiple products and product candidates; the ability of Regeneron’s collaborators, suppliers, or other third parties to perform filling, finishing, packaging, labeling, distribution, and other services related to Regeneron’s products and product candidates; uncertainties associated with intellectual property of other parties and pending or future litigation related thereto, including without limitation the patent litigation proceedings relating to EYLEA, Dupixent, and Praluent, the ultimate outcome of any such litigation proceeding, and the impact any of the foregoing may have on Regeneron’s business, prospects, operating results, and financial condition; and the potential for any license or collaboration agreement, including Regeneron’s agreements with Sanofi, Bayer, and Teva Pharmaceutical Industries Ltd. (or their respective affiliated companies, as applicable), to be cancelled or terminated without any further product success. A more complete description of these and other material risks can be found in Regeneron’s filings with the U.S. Securities and Exchange Commission, including its Form 10-K for the fiscal year ended December 31, 2017 and its Form 10-Q for the quarterly period ended September 30, 2018, including in each case in the section thereof captioned “Item 1A. Risk Factors.” Any forward-looking statements are made based on management’s current beliefs and judgment, and the reader is cautioned not to rely on any forward-looking statements made by Regeneron. Regeneron does not undertake any obligation to update publicly any forward-looking statement, including without limitation any financial projection or guidance, whether as a result of new information, future events, or otherwise.

This presentation uses non-GAAP financial measures. Non-GAAP financial measures are computed by excluding certain non-cash and other items from the related GAAP financial measure. Non-GAAP adjustments also include the income tax effect of reconciling items. The Company makes such adjustments for items the Company does not view as useful in evaluating its operating performance. For example, adjustments may be made for items that fluctuate from period to period based on factors that are not within the Company’s control, such as the Company’s stock price on the dates share-based grants are issued. Management uses these and other non-GAAP measures for planning, budgeting, forecasting, assessing historical performance, and making financial and operational decisions, and also provides forecasts to investors on this basis. Additionally, such non-GAAP measures provide investors with an enhanced understanding of the financial performance of the Company’s core business operations. However, there are limitations in the use of these and other non-GAAP financial measures as they exclude certain expenses that are recurring in nature. Furthermore, the Company’s non-GAAP financial measures may not be comparable with non-GAAP information provided by other companies. Any non-GAAP financial measure presented by Regeneron should be considered supplementary to, and not a substitute for, measures of financial performance prepared in accordance with GAAP. A reconciliation of the Company’s full year 2019 non-GAAP to GAAP financial guidance is provided on slide 12.
PROVEN INNOVATION

WHERE WE ARE
### Key Milestones and Achievements

#### RESEARCH & DEVELOPMENT

<table>
<thead>
<tr>
<th>Key Regulatory Approvals*</th>
<th>Key Regulatory Filings</th>
<th>Clinical Trial Readouts</th>
<th>Ph2 and Ph3 Trial Initiations</th>
<th>INDs &amp; Ph1 Trial Initiations</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIBTAYO Advanced CSCC</td>
<td>EYLEA Diabetic Retinopathy</td>
<td>DUPIXENT Ph3 Chronic Rhinosinusitis with Nasal Polyps</td>
<td>DUPIXENT Ph2/3 Eosinophilic Esophagitis</td>
<td>REGN4018 (MUC16xCD3) Ovarian Cancer</td>
</tr>
<tr>
<td>DUPIXENT Moderate-to-severe Asthma</td>
<td>DUPIXENT Atopic Dermatitis in adolescents</td>
<td>LIBTAYO Ph1 Non Small Cell Lung Cancer</td>
<td>Ph2 Grass Allergy</td>
<td>REGN5458 (BCMAxCD3) Multiple Myeloma</td>
</tr>
<tr>
<td>EYLEA Q12 week dosing in wAMD after one year of effective therapy</td>
<td>PRALUENT Cardiovascular Risk Reduction</td>
<td>REGN1979 (CD20xCD3) PoC in Follicular Lymphoma &amp; Diffuse Large B-Cell Lymphoma</td>
<td>Ph2 Peanut Allergy</td>
<td>REGN4659 (CTLA-4) Cancer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fasinumab (NGF) Ph3 Osteoarthritis</td>
<td>Ph2/3 AD in peds (6 mo – 5 yr)</td>
<td>REGN5069 (GFRα3) Pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pozelimab (C5) Ph1 in Healthy Volunteers</td>
<td>REGN3500 (IL-33) Ph2 Chronic Obstructive Pulmonary Disease</td>
<td>REGN4461 (LEPR) Metabolic Disease</td>
</tr>
</tbody>
</table>

#### COMMERCIAL

<table>
<thead>
<tr>
<th>Infectious Disease</th>
<th>Delivered REGN-EB3 to the Democratic Republic of the Congo for use in Ebola patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetics</td>
<td>Sequenced 500k human exomes to date</td>
</tr>
<tr>
<td>New Partnerships/Collaborations</td>
<td>UK Biobank consortium, bluebird bio, Alnylam, Zoetis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US EYLEA</th>
<th>Net sales of ~$4.07 Billion†; ~10% year-over-year growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUPIXENT</td>
<td>Annualizing in excess of $1.0 Billion, based on 3Q18 worldwide net sales; Atopic Dermatitis launch continues to accelerate; Asthma launch progressing well, particularly among allergists</td>
</tr>
<tr>
<td>LIBTAYO</td>
<td>Physician interest and market uptake are encouraging</td>
</tr>
<tr>
<td>PRALUENT</td>
<td>Working with payers to improve access and lower cost to patients</td>
</tr>
</tbody>
</table>

* Please see full Prescribing Information for all approved products
† Based on preliminary unaudited fiscal 2018 results; preliminary unaudited 4Q18 U.S. EYLEA net sales of $1.07 Billion

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
EYLEA®: STRENGTHENING MARKET LEADERSHIP POSITION

Building on leadership position in wAMD and diabetic eye disease, both of which are increasing in prevalence

- We believe there are no near-term potential agents that can provide substantially different dosing flexibility, duration or visual gains than are already achievable with EYLEA

Label expansions and line extensions

Innovating next generation therapeutics

Our strategy is to maximize EYLEA growth opportunities and develop next generation therapeutics

* Based on preliminary unaudited fiscal 2018 results; preliminary, unaudited 4Q18 U.S. EYLEA net sales of $1.07 Billion
† Outside the United States, EYLEA net product sales comprise sales by Bayer in countries other than Japan and sales by Santen Pharmaceutical Co., Ltd. in Japan under a co-promotion agreement with an affiliate of Bayer
Opportunities in Diabetic Eye Diseases

**Diabetic Macular Edema (DME)**
- Targeted commercial strategy to increase anti-VEGF penetration

**Diabetic Retinopathy (DR) without DME – PDUFA date May 13, 2019**
- Phase 3 PANORAMA study shows potential to change clinical practice
  - 65-80% of EYLEA-treated patients experienced ≥ two-step improvement from baseline on the Diabetic Retinopathy Severity Scale (DRSS) vs. 15% sham (p<0.0001)
  - 72-76% reduction in vision-threatening complications (VTCs) and center-involved diabetic macular edema (CI-DME): (10-11% EYLEA vs. 41% sham, p<0.001)
- Of the 3.5M people in the U.S. with DR without DME, ~1M individuals have moderate-to-severe disease and are at greatest risk

**Next Generation Strategy**

*Our strategy is to make even better treatments than our market-leading anti-VEGF therapy, EYLEA*
- High Dose Formulation of EYLEA
- Other new molecular entities and gene therapies
DUPIXENT®: BUILDING LEADERSHIP IN ATOPIC DERMATITIS AND LAUNCHING IN ASTHMA

Atopic Dermatitis: Practice-Changing Advance in Management

In the U.S., less than 15% of adult AD patients with the greatest need have used DUPIXENT

High persistence and compliance indicate patient and physician satisfaction

Ex-U.S. launch in early stage and progressing well

Encouraging prescription trends following commencement of DTC TV campaign in 3Q18

Moderate-to-Severe Asthma: High Unmet Need

Only asthma biologic approved for:
- Self administration
- Moderate-to-severe asthma with an eosinophilic phenotype
- Oral corticosteroid-dependent asthma regardless of phenotype
- AD patients with comorbid asthma

Consistent and clinically meaningful improvements in lung function, asthma attacks and oral steroid sparing

Up to 900K patients (≥12 years) in the U.S. with moderate-to-severe asthma may be suitable for biologic therapy

Encouraging initial prescription trends, particularly among allergists treating asthma

* Source: IQVIA
Please see full Prescribing Information for all approved products
DUPIXENT®: DELIVERING ON THE “PIPELINE IN A PRODUCT” PROMISE

<table>
<thead>
<tr>
<th>APPROVED INDICATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atopic Dermatitis</td>
<td>Approved in Adults</td>
</tr>
<tr>
<td>Moderate-to-Severe Asthma</td>
<td>Approved in Adults and Adolescents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NEAR-TERM OPPORTUNITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atopic Dermatitis in Adolescents (12-17 years)</td>
<td>sBLA submitted, PDUFA date March 11, 2019</td>
</tr>
<tr>
<td>Atopic Dermatitis in Pediatrics (6-11 years)</td>
<td>Ph3 readout expected in 2019</td>
</tr>
<tr>
<td>Chronic Rhinosinusitis with Nasal Polyps (CRSwNP)</td>
<td>Two Positive Ph3 studies reported 2H18 sBLA filing expected in 1Q19</td>
</tr>
<tr>
<td>Eosinophilic Esophagitis</td>
<td>Positive Ph2 results; Pivotal trial initiated 3Q18</td>
</tr>
<tr>
<td>Chronic Obstructive Pulmonary Disease (COPD)</td>
<td>Initiate Ph2/3 in 2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LONGER-TERM OPPORTUNITIES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric Asthma (6-11 years)</td>
<td>Ph3 ongoing</td>
</tr>
<tr>
<td>Food Allergies</td>
<td>Ph2 in Peanut Allergy initiated; more planned</td>
</tr>
<tr>
<td>Airborne Allergies</td>
<td>Ph2 in Grass Allergy initiated</td>
</tr>
<tr>
<td>Combinations with REGN3500 (IL-33)</td>
<td>Ph2 initiated in AD and Asthma</td>
</tr>
</tbody>
</table>

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
Cutaneous squamous cell carcinoma (CSCC) is the second most common form of skin cancer (after Basal Cell Carcinoma) and is responsible for an estimated 7,000 deaths per year in the U.S.; prior to LIBTAYO there were no approved therapies for advanced disease.

Despite thousands of trials by others, Regeneron is the first to identify advanced CSCC as perhaps the most responsive solid tumor to immunotherapy.

LIBTAYO is now the only approved treatment option for advanced CSCC, a life-threatening condition.

### June 2018 NEJM publication details pivotal Phase 2 study results in 59 metastatic CSCC patients:

- **Primary endpoint:** 47.5% Overall Response Rate by independent review
- **Durable Disease Control Rate of 61%**
- **Median duration of response and progression-free survival** have not been reached
- **LIBTAYO** was associated with adverse events similar to other PD-1 inhibitors

An 83-year-old patient who had undergone multiple surgeries for CSCC, at baseline and after 8 weeks of treatment with LIBTAYO.
2019 GOALS AND MILESTONES

**KEY REGULATORY APPROVALS & SUBMISSIONS**

- **EYLEA** FDA decision on sBLA for the treatment of Diabetic Retinopathy (PDUFA date May 13, 2019); re-submission of Prior-Approval Supplement (PAS) for pre-filled syringe
- **DUPIXENT** FDA decision on sBLA for expanded Atopic Dermatitis indication in adolescent patients 12–17 years of age (PDUFA date March 11, 2019); EMA decision on regulatory application for Asthma; file sBLA for Chronic Rhinosinusitis with Nasal Polyps (CRSwNP)
- **LIBTAYO** EMA decision for advanced cutaneous squamous cell carcinoma (CSCC)
- **PRALUENT** FDA (PDUFA date April 28, 2019) and EMA decisions on applications for Cardiovascular Risk Reduction; FDA decision on sBLA for first-line treatment of Hyperlipidemia (PDUFA date April 29, 2019)

**CLINICAL PROGRESS**

- **EYLEA** Initiate a study of higher dose formulations of aflibercept
- **DUPIXENT** Continue enrollment in pivotal eosinophilic esophagitis (EoE) study; Initiate Ph2/3 program in Chronic Obstructive Pulmonary Disease (COPD)
- **LIBTAYO** Continue enrollment in NSCLC and various other studies
- **REGN1979 (CD20xCD3)** Initiate potentially pivotal Ph2 study in Follicular Lymphoma (FL) and potentially pivotal Ph2 study in Diffuse Large B-Cell Lymphoma (DLBCL)
- **Fasinumab (NGF)** Continue patient enrollment in Ph3 long-term safety study and Ph3 efficacy studies in Osteoarthritis
- **Pozelimab (C5)** Initiate Ph2 in Paroxysmal Nocturnal Hemoglobinuria (PNH)

**KEY DATA READOUTS**

- **DUPIXENT** Report results from Ph3 study for Atopic Dermatitis in pediatric patients 6–11 years of age
- **REGN3500 (IL-33)** Report results from Ph2 Asthma study
- **Trevogrumab (GDF8) + Garetosmab (Activin-A)** Report results from multi-dose portion of Ph1 study

**NEW INDs**

- Expect to advance 4-6 new molecules into clinical development (including more CD3 & CD28 bispecifics)

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This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
## 2019 FINANCIAL GUIDANCE*

<table>
<thead>
<tr>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanofi Collaboration Revenue: Reimbursement of Regeneron Commercialization-Related Expenses</td>
<td>$510 – 560MM</td>
</tr>
<tr>
<td>Non-GAAP unreimbursed R&amp;D†</td>
<td>$1,590 – 1,710MM</td>
</tr>
<tr>
<td>Non-GAAP SG&amp;A†</td>
<td>$1,500 – 1,600MM</td>
</tr>
<tr>
<td>Effective Tax Rate</td>
<td>14 – 16%</td>
</tr>
<tr>
<td>Capital Expenditures</td>
<td>$410 – 490MM</td>
</tr>
</tbody>
</table>

* As of January 7, 2019. The guidance does not assume the completion of any significant business development transaction that had not been completed as of the date of the guidance. Regeneron does not undertake any obligation to update publicly any financial projection or guidance, whether as a result of new information, future events, or otherwise.

† Please refer to slide 2 for important information regarding non-GAAP financial measures and to slide 12 for a reconciliation of these measures to GAAP financial measures.
## RECONCILIATION OF FULL YEAR 2019 NON-GAAP TO GAAP FINANCIAL GUIDANCE

<table>
<thead>
<tr>
<th>(in millions)</th>
<th>Projected Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>GAAP unreimbursed R&amp;D*</td>
<td>$1,855</td>
</tr>
<tr>
<td>R&amp;D: Non-cash share-based compensation expense</td>
<td>(265)</td>
</tr>
<tr>
<td>Non-GAAP unreimbursed R&amp;D</td>
<td>$1,590</td>
</tr>
<tr>
<td>GAAP SG&amp;A</td>
<td>$1,700</td>
</tr>
<tr>
<td>SG&amp;A: Non-cash share-based compensation expense</td>
<td>(200)</td>
</tr>
<tr>
<td>Non-GAAP SG&amp;A</td>
<td>$1,500</td>
</tr>
</tbody>
</table>

* Unreimbursed R&D represents R&D expenses reduced by R&D expense reimbursements from the Company’s collaborators and/or customers.
This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
Before DUPIXENT

Prior treatments included cycles of prednisone, oral anti-Staph antibiotics, triamcinolone and chronic daily sedating antihistamines

After DUPIXENT

Patient had significantly improved overall disease severity, skin clearing and reduced itching

Dupilumab q2w n=82

Placebo n=85

IGA: 0-1*

EASI-75*

41.5%

24%

8%

2%

Overall rate of treatment-emergent adverse events was comparable between the dupilumab group (72%) and placebo (69%). The rate of overall infections and infestations was numerically lower in the dupilumab group (11%) vs. placebo (20%)

No SAEs or events leading to discontinuation in the treatment group

IGA: Investigator’s Global Assessment, EASI: Eczema Area and Severity Index

For illustrative purposes only. Results are not representative of all patients; and individual results vary.
DRIVEN BY DISCOVERY

REGENERON’S IO STRATEGY
REGENERON’S IO STRATEGY IS BUILT ON A DEEP FOUNDATION OF SCIENCE AND TECHNOLOGY

619 manuscripts published, 9,351 patent applications filed and 4,945 patents issued over the last 10 years

500,000 exomes sequenced by Regeneron Genetics Center (RGC)

VELOCISUITE®

- Genetically-hummanized human immune system in a mouse, producing a diverse range of fully human monoclonal antibodies
- Rapid, automated and high-scale manipulation of mouse DNA to identify and validate therapeutic targets
- Fully human T-cell receptors (TCR) against tumor and viral antigens
- Proprietary method that uses VelociImmune with proprietary antibody manufacturing processes to generate full-length human bispecific antibodies
- Genetically altered mice derived from modified embryonic stem cells
- High-throughput screening of antibodies and rapid generation of production cell lines

VELOCI-TM

- Rapid, automated and high-scale manipulation of mouse DNA to identify and validate therapeutic targets

VELOCI-Bi®

- Fully human T-cell receptors (TCR) against tumor and viral antigens

VELOCI®

- Proprietary method that uses VelociImmune with proprietary antibody manufacturing processes to generate full-length human bispecific antibodies

VELOCIMAB®

- Genetically altered mice derived from modified embryonic stem cells
- High-throughput screening of antibodies and rapid generation of production cell lines

VELOCI®

- Fully human T-cell receptors (TCR) against tumor and viral antigens
- Proprietary method that uses VelociImmune with proprietary antibody manufacturing processes to generate full-length human bispecific antibodies
- Genetically altered mice derived from modified embryonic stem cells
- High-throughput screening of antibodies and rapid generation of production cell lines
### DEVELOPMENT STRATEGY

<table>
<thead>
<tr>
<th>Indication</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximize Skin Cancer Opportunity</strong></td>
<td></td>
</tr>
<tr>
<td>2L Basal Cell Carcinoma (BCC) – Ph2 ongoing</td>
<td></td>
</tr>
<tr>
<td>CSCC – Ph3 adjuvant trial to start in 1H19; neo-adjvant studies to follow</td>
<td></td>
</tr>
<tr>
<td>Melanoma – regulatory discussions anticipated 1H19</td>
<td></td>
</tr>
<tr>
<td><strong>Non Small Cell Lung Cancer (NSCLC)</strong></td>
<td></td>
</tr>
<tr>
<td>1L NSCLC Monotherapy (≥50% PD-L1) (n=700) – Ph3 ongoing</td>
<td></td>
</tr>
<tr>
<td>1L NSCLC Combination therapy (non-squamous and squamous, stratified by PD-L1 status) – Ph3 amended</td>
<td></td>
</tr>
<tr>
<td>• LIBTAYO + Chemo vs. Chemo</td>
<td></td>
</tr>
<tr>
<td><strong>HPV Positive Cancers</strong></td>
<td></td>
</tr>
<tr>
<td>2L Cervical Cancer – Ph3 ongoing</td>
<td></td>
</tr>
<tr>
<td><strong>Additional Solid &amp; Liquid Tumor Indications</strong></td>
<td></td>
</tr>
<tr>
<td>Pediatric Glioblastoma (GBM) – Ph1/2 initiated</td>
<td></td>
</tr>
<tr>
<td>1L Classical Hodgkin Lymphoma – Ph1 anticipated in 2019</td>
<td></td>
</tr>
<tr>
<td><strong>Combinations</strong></td>
<td></td>
</tr>
<tr>
<td>Immune modulators, vaccines, cell therapies, kinase inhibitors, chemotherapy and bispecifics</td>
<td></td>
</tr>
</tbody>
</table>

**CSCE: THE FIRST OF MANY POTENTIAL APPROVALS**

LIBTAYO® is the first and only FDA-approved therapy for patients with advanced CSCC; potentially pivotal study in BCC ongoing

We plan to be a major player in indications where PD-1 inhibition has shown activity

We have a comprehensive and differentiated IO strategy with LIBTAYO at the core

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
REGENERON’S IO STRATEGY CONNECTS MULTIPLE INDIVIDUAL PIECES…
...LOGICALLY AND RATIONALLY INTO A COHESIVE WHOLE

...like pieces in a puzzle, bringing order to chaos

Regeneron’s IO puzzle is evolving and not yet complete; based on science and experimental data, the shape, components and configuration may change
REGENERON’S CD3 & COSTIMULATORY BISPECIFICS ARE OFF-THE-SHELF DRUGS WITH POTENTIAL TO TURN PATIENTS’ T CELLS INTO CAR-T-LIKE CANCER KILLERS

**CAR-T Mechanism**

The combination of CD3 and costimulatory bispecifics has the potential to activate T cells into highly effective, targeted cancer killers.
REGENERON’S CD3 & COSTIMULATORY BISPECIFICS ARE OFF-THE-SHELF DRUGS WITH POTENTIAL TO TURN PATIENTS’ T CELLS INTO CAR-T-LIKE CANCER KILLERS

**CAR-T Mechanism**

LIBTAYO blocks the stop signal

**Bispecific/Costimulatory Mechanism**

LIBTAYO blocks the stop signal

Using LIBTAYO to block PD-1 signaling can further enhance the efficacy of CD3 and costimulatory bispecifics
Unlike superagonist CD28 mAbs, our CD28 bispecifics have no toxicity, and little or no activity on their own, but when clustered on cells expressing their target, activate signal 2 and synergize with signal 1 (via CD3 bispecific) and/or anti-PD-1

In 2019, Regeneron plans to advance two distinct CD28 bispecific antibodies into clinical development

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
### REGENERON’S IO STRATEGY IS BASED ON RATIONAL COMBINATIONS

<table>
<thead>
<tr>
<th>Anti-PD-1 Responsive Tumors</th>
<th>Anti-PD-1 Unresponsive Tumors</th>
<th>Additional Strategic Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCR binds tumor MHC/peptide</td>
<td>TCR does not recognize tumor MHC/peptide</td>
<td>CAR-T therapies alone or in combination</td>
</tr>
<tr>
<td><strong>Anti-PD-1 mAb monotherapy or combination</strong></td>
<td><strong>CD3 bispecific alone, or in combination with PD-1 and/or costims</strong></td>
<td><strong>Major collaboration with bluebird bio to empower and extend CAR-T therapies with novel tumor targeting moieties such as TCRs or reagents that bind peptide/MHC complexes</strong></td>
</tr>
<tr>
<td>• Block T cell inhibition with LIBTAYO (anti-PD-1) monotherapy</td>
<td><strong>Initiate immune response with a CD3 bispecific targeting tumor specific antigens (e.g., neoantigens bound to MHC) or tumor associated antigens on cells that are safe to ablate (e.g., CD20)</strong></td>
<td>• Can complement with soluble reagents such as anti-PD-1 and CD3 or costimulatory bispecifics</td>
</tr>
<tr>
<td>• Enhance with combinations: chemotherapy, other immune modulators (e.g., CTLA-4, LAG-3, GITR), kinase inhibitors, vaccines, costimulatory bispecifics, etc.</td>
<td>• Enhance response with anti-PD-1 and/or costimulatory bispecific directed against a tumor target</td>
<td></td>
</tr>
</tbody>
</table>

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.
PUTTING THEORY INTO PRACTICE: REGN1979, OUR EXCLUSIVELY-OWNED CD20xCD3 BISPECIFIC ANTIBODY, DEMONSTRATES HIGH ORR/CR

In our dose escalation Ph1 study, treatment with ≥5 mg of REGN1979 demonstrated 100% ORR and 80% CR in 10 pts with R/R FL.

At higher doses in R/R DLBCL we are seeing response rates that make us optimistic about achieving activity comparable to CAR-Ts.

At doses tested, REGN1979 was well-tolerated in B-NHL: 75% patients had Grade 3/4/5 AEs, no DLTs, 3% discontinued due to AE, no discontinuations due to CRS or immune-related events, no clinically significant neurotoxicity (no seizures/encephalopathy), 1 death due to related AE.*

Safety and toxicity profile is encouraging and supports further dose escalation.

Initiating potentially pivotal studies in 2019

This slide includes pipeline drug candidates currently undergoing clinical testing in a variety of diseases. The safety and efficacy of these drug candidates have not been evaluated by any regulatory authorities for the disease categories described here.

* gastric perforation in patient with gastric wall lymphoma
### BROADENING OUR IMMUNO-ONCOLOGY PIPELINE

**Pre-IND**
- **TSAxCD28**
  - Solid Tumor
- **TSAxCD28**
  - B cell malignancy
- **GITR**
  - Solid tumors
- **And More To Come**
  - HLA/peptide (tumor and viral), etc.

**Clinical Development**
- **REGN1979 (CD20xCD3)**
  - B-Cell NHL
- **REGN5458 (BCMAxCD3)**
  - Multiple Myeloma
- **REGN4018 (MUC16xCD3)**
  - Ovarian Cancer
- **REGN4659 (CTLA-4)**
  - NSCLC
- **REGN3767 (LAG-3)**
  - Solid/hematologic malignancies

**LIBTAYO Potential Indications**
- **LIBTAYO**
  - NSCLC, Cervical, BCC, Pediatric
- **LIBTAYO + REGN1979 (CD20xCD3)**
  - B-Cell NHL

**Approved**
- **LIBTAYO**
  - CSCC

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MANY COMPANIES CAN DO ONE THING...

CD3 bispecifics

PD-1/L1

Costimulatory bispecifics

CTLA-4, LAG-3, GITR…
...FEW CAN DO MANY THINGS

PD-1/L1

Costimulatory bispecifics

REGENERON is one of the few

CD3 bispecifics

CTLA-4, LAG-3, GITR...