

Capital Markets Day

Play to Win

December 10, 2019



SANOFI




Forward looking statements

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Additional information

The tender offer for the outstanding shares of Synthorx common stock (“Synthorx”) referenced in this communication has not yet commenced. This communication is for informational purposes only and is neither an offer to purchase nor a solicitation of an offer to sell shares of Synthorx, nor is it a substitute for the tender offer materials that Sanofi and its acquisition subsidiary will file with the U.S. Securities and Exchange Commission (the “SEC”) upon commencement of the tender offer. At the time the tender offer is commenced, Sanofi and its acquisition subsidiary will file tender offer materials on Schedule TO, and thereafter Synthorx will file a Solicitation/Recommendation Statement on Schedule 14D-9 with the SEC with respect to the tender offer. **THE TENDER OFFER MATERIALS (INCLUDING AN OFFER TO PURCHASE, A RELATED LETTER OF TRANSMITTAL AND CERTAIN OTHER TENDER OFFER DOCUMENTS) AND THE SOLICITATION/RECOMMENDATION STATEMENT WILL CONTAIN IMPORTANT INFORMATION. HOLDERS OF SHARES OF Synthorx ARE URGED TO READ THESE DOCUMENTS WHEN THEY BECOME AVAILABLE (AS EACH MAY BE AMENDED OR SUPPLEMENTED FROM TIME TO TIME) BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION THAT Synthorx STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING ANY DECISION REGARDING TENDERING THEIR SHARES.** The Offer to Purchase, the related Letter of Transmittal and certain other tender offer documents, as well as the Solicitation/Recommendation Statement, will be made available to all holders of shares of Synthorx at no expense to them. The tender offer materials and the Solicitation/Recommendation Statement will be made available for free at the SEC’s web site at www.sec.gov. Additional copies may be obtained for free by contacting Sanofi at ir@sanofi.com or on Sanofi’s website at <https://en.sanofi.com/investors>.

Agenda

Strategic outlook	Paul Hudson Chief Executive Officer	
Margin expansion	Jean-Baptiste de Chatillon EVP, Chief Financial Officer	
Lead with innovation	John Reed EVP, Global Head of R&D	
Q&A	Sanofi Executive Committee	
Breakout sessions		



Strategic outlook

Paul Hudson

Chief Executive Officer



We hear you

Select analyst quotes, 2014-2019

Focus

“Don’t even know where to look”

Execution

“Did you say execution issues?”

Pipeline

“The pipeline remains underwhelming”

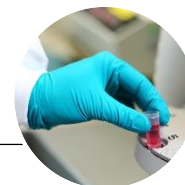
Growth

“The long wait for growth”

We see opportunities



Untapped potential
in core assets



Predictable, long-term
franchises in portfolio



Promising science and prioritized bets
with the potential to change patient's lives



World-class and
engaged talent

Our six-year plan



2020-2022

- Refocus with decisive actions
- Growth through winning assets
- Margin expansion



2023-2025+

- Transformative launches
- Agile and efficient resource deployment
- Leading R&D productivity

Play to win



**Focus
on growth**

Portfolio prioritization
to strengthen profile



**Lead with
innovation**

Bring transformative
therapies to patients



**Accelerate
efficiency**

Decisive actions to
expand margins



**Reinvent how
we work**

Empowerment and
accountability

Our key growth drivers



Dupixent®

Maximize patient benefits with ambition to achieve >€10 billion peak sales across type 2 inflammatory diseases



Vaccines

Expected mid-to-high single-digit growth⁽¹⁾, through differentiated products, market expansion, launches



Pipeline

Prioritize and accelerate portfolio of potentially transformative therapies

Dupixent® targets a central pathway in T2 inflammation

Type 1 inflammation

Primary immune cells



Key cytokines



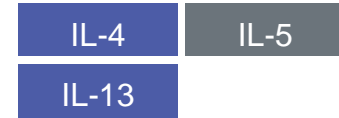
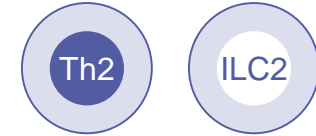
Example associated diseases

Autoimmune diseases

- Rheumatoid Arthritis
- Psoriasis/Psoriatic Arthritis
- Ulcerative Colitis/Crohn's Disease
- Ankylosing Spondylitis

Type 2 inflammation

DUPIXENT
(dupilumab)



Type 2 inflammatory diseases

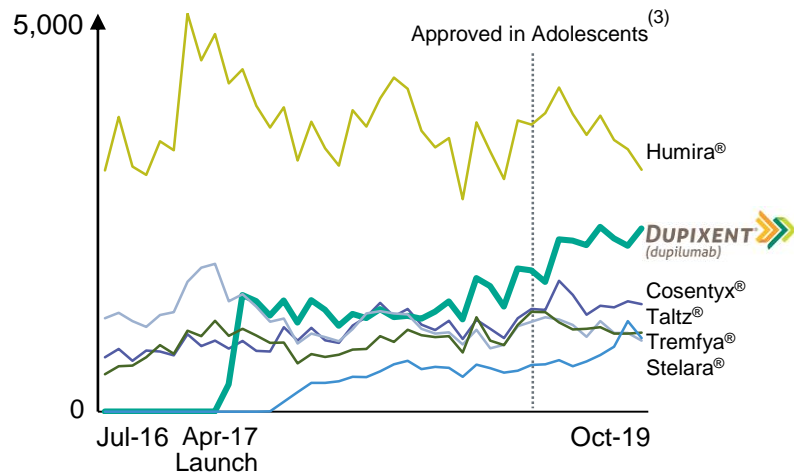
- Atopic Dermatitis
- Asthma
- Nasal Polyps
- Respiratory / Dermatology adjacencies

Type 2 pathway - transformative potential similar to Type 1

Dupixent® has major growth potential in Atopic Dermatitis

Ambition to become leading biologic with dermatologists

U.S. monthly NBRx at dermatologists⁽¹⁾



Opportunity to increase uptake and expand to pediatric segments

U.S. population by age group (patients in '000, approximate)⁽²⁾

	Adults	12-17Y	6-11Y ⁽⁶⁾	<6Y ⁽⁶⁾
Prevalence	8,200	2,500	2,500	2,400
Moderate-to-severe	2,600	800	700	700
Biologics eligible ⁽⁴⁾	1,700	400	90	75
Dupixent®	59⁽⁵⁾	5⁽⁵⁾	Submission: 2019e 2022e	
<i>Share of Biologics eligible</i>	3.5%	1.3%		

(1) IQVIA Patient Insights

(2) Truven Payer Claims Data, IQVIA Sanofi Custom SOB Report, Data on file

(3) FDA approved on March 11, 2019

(4) Moderate-to-Severe uncontrolled for adults and 12-17Y (label population); Conservative assumption for <12Y with severe uncontrolled only

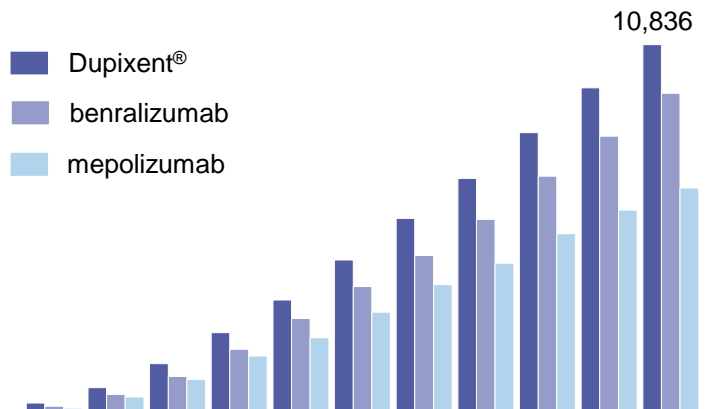
(5) Reflects the number of patients currently on treatment

(6) Estimated regulatory submission timing and data has not been reviewed by any regulatory authority

Dupixent[®] driving market expansion in Asthma

Best uptake among biologics

Cumulative NBRx in Asthma (monthly, all channels)⁽¹⁾



Expanding biologics market, gaining share and seeking pediatric indication

U.S. population by age group (patients in '000, approximate)⁽²⁾

	Adults/ 12-17Y	6-11Y ⁽⁶⁾
Prevalence	23,500	2,400
Moderate-to-severe ⁽³⁾	1,600	200
Biologics eligible ⁽⁴⁾	900	75
Treated on biologics	118	3
Dupixent[®]	11⁽⁵⁾	Submission 2021e
<i>Share of Biologics eligible</i>	1.2%	
<i>Share of Biologics class</i>	9.0%	

~80% of Dupixent[®] asthma patients to date have been naive to biologics

(1) IQVIA Patient Insights; Dupixent launched in November 2018
 (2) Truven Payer Claims data, IQVIA Sanofi Custom SOB Report, data on file
 (3) Moderate-to-severe with persistent use of medium to high dose ICS or OCS use or biologic

(4) Uncontrolled despite persistent use of medium to high dose ICS + >1 controller or OCS .
 (5) Reflects the number of patients currently on treatment
 (6) Estimated regulatory submission timing and data has not been reviewed by any regulatory authority

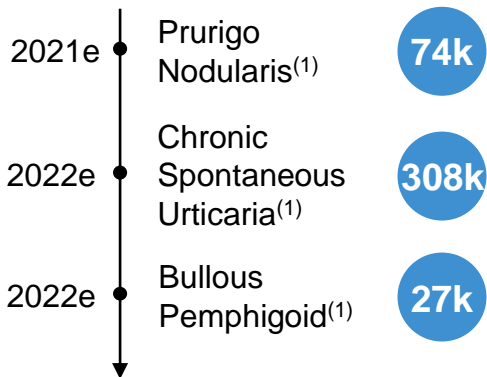
Dupixent®: Significant potential in adjacent indications



Dermatology

Expected U.S. submission date

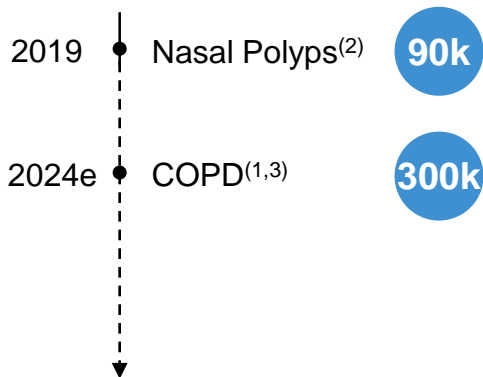
U.S. biologics eligible population



Respiratory

Expected U.S. submission date

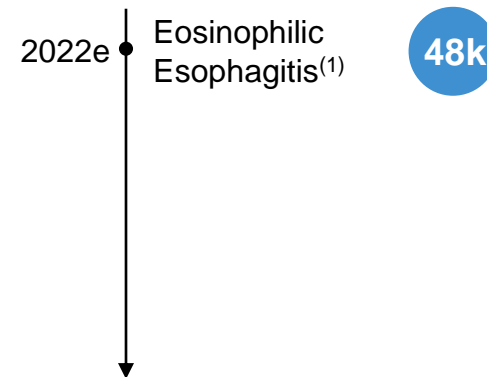
U.S. biologics eligible population



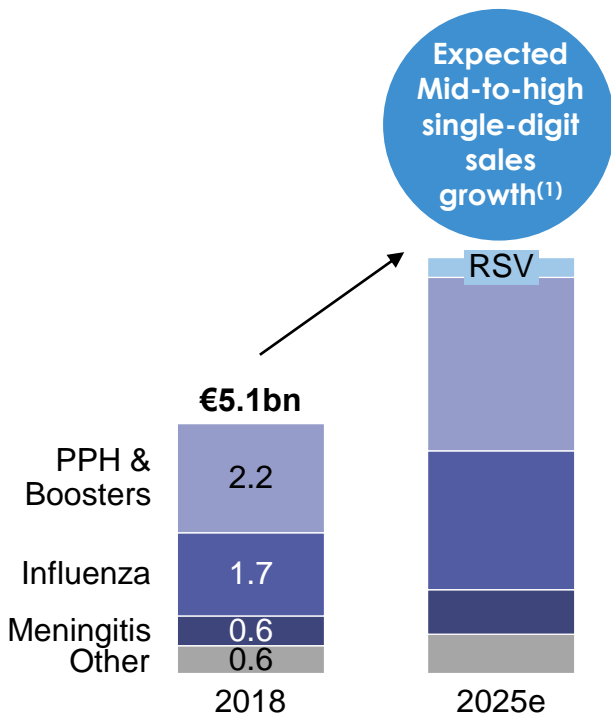
Other Type 2 indications

Expected U.S. submission date

U.S. biologics eligible population



Vaccines: Strong growth driven by 3 core franchises & RSV



RSV⁽²⁾

- Launch first prophylaxis against RSV for all infants



PPH & Boosters

- Global Hexaxim[®] expansion
- Vaxelis[®] U.S. introduction
- Boosters acceleration



Influenza

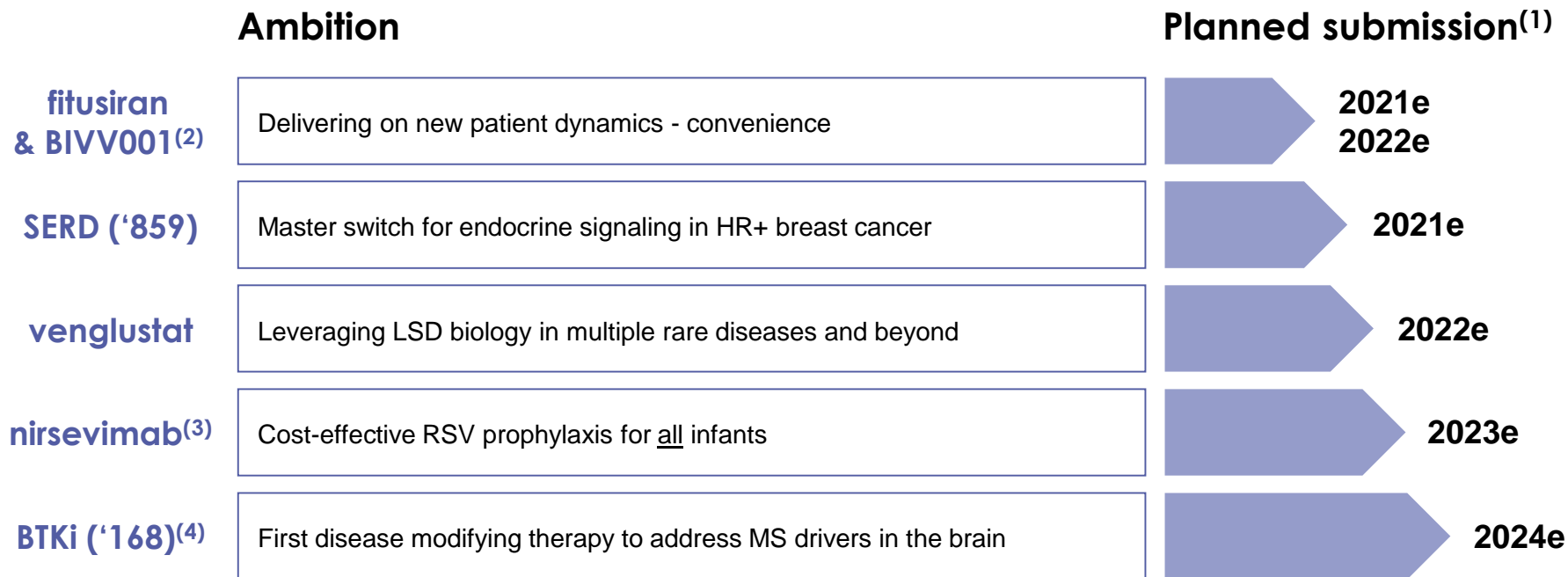
- Fluzone[®] HD QIV launch
- Flublok[®] expansion
- Increasing VCR



Meningitis

- Men ACWY expansion
- MenQuadfi[™] launch in U.S. & Europe

Accelerate portfolio of potential transformative therapies



BTKi: bruton tyrosine kinase inhibitor; LSD: lysosomal storage disease; MS: multiple sclerosis; RSV: respiratory syncytial virus; SERD: selective estrogen receptor degrader; HR+: hormone-receptor positive

(1) First submission for products with multiple potential indications, investigational program not yet reviewed by any regulatory authority

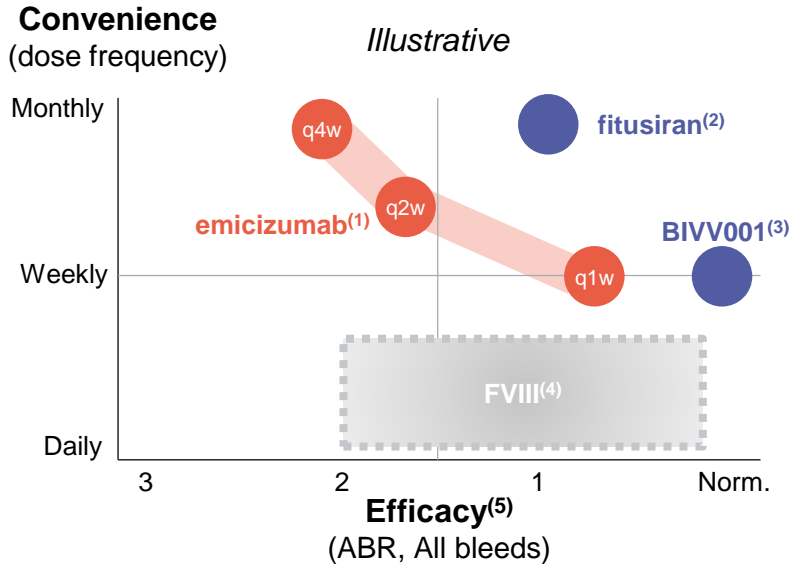
(2) In collaboration with SOBI

(3) In collaboration with AstraZeneca

(4) In collaboration with Principia

Hemophilia: Patient experience drives choice

Target profiles vs. marketed products



ABR: annualized bleed rate; SC: subcutaneous; BIVV001 is in collaboration with SOBI

- (1) emicizumab: 2.1 ABR with q4w; 1.6 ABR with q2w; 0.6 ABR with q1w (Hemlibra prescribing information; median ABR (HAVEN-3 for Q1w & q2w, HAVEN-4 for q4w)
- (2) fitusiran: 0.97 ABR with q4w (Phase 2 OLE Interim Results)
- (3) BIVV001: Target Product Profile aiming for weekly dose, and ~3.5 days with FVIII activity >40%
- (4) Individualized prophylaxis varies from daily to every 4 days and between <1 and >1 ABR
- (5) No H2H studies comparing efficacy of emicizumab and fitusiran or BIVV001 have been conducted

Market research

~75% patients switched to emicizumab due to convenience (less frequent dosing, SC administration)⁽⁶⁾

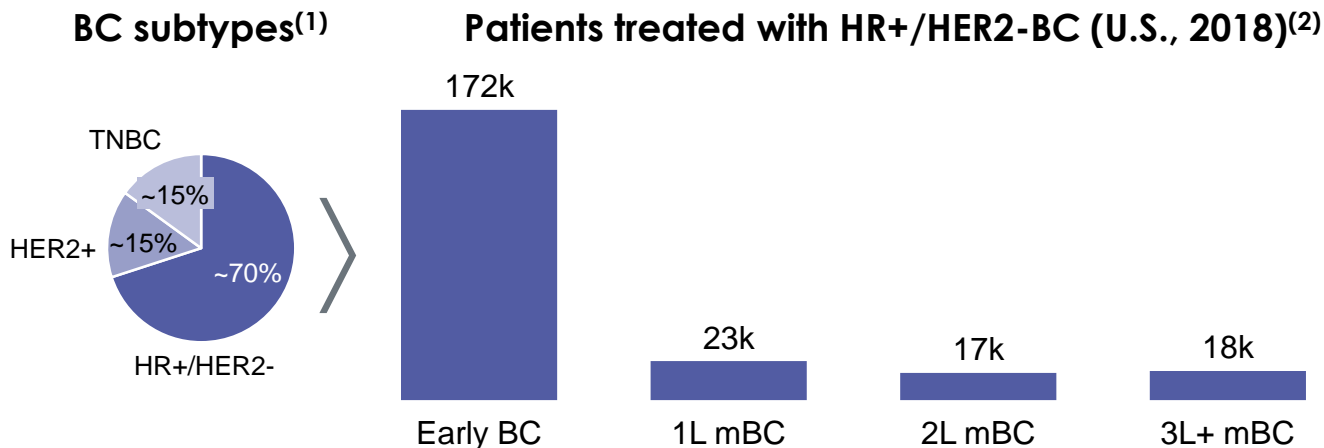
<10% emicizumab patients on monthly dosing⁽⁷⁾

~90% emicizumab patients experienced acute bleeds⁽⁶⁾

(6) Consumer Awareness, Trial, and Usage study among patients conducted over 359 Adult patients and caregivers surveyed online in April 2019, of which 131 were Adult Hemophilia A patients and 78 were Hemophilia A caregivers. Patients who switched to emicizumab answered questions specific to their treatment experience

(7) 2019 Specialty Pharmacy data obtained through Specialty Pharmacy Distributors, Hemophilia Alliance HTCs and Direct HTCs

SERD ('859): Potential to improve the treatment of HR+ BC



SoC	Endocrine backbone (duration)	Tam, AI (5+ years)	Tam, AI, F (to progression)	Tam, AI, F (to progression)	Tam, AI, F (to progression)
	Addition	CT ⁽³⁾	CDK4/6i	CDK4/6i or mTORi or Pi3Ki	CDK4/6i or mTORi or Pi3Ki

SERD ('859): potentially superior endocrine backbone

- Potent, broad estrogen receptor degrader⁽⁵⁾
- PoC achieved⁽⁴⁾
- Favorable safety & tolerability (no related Grade 3 events, no bradycardia, no QTc prolongation)
- FDA Fast Track

AI: aromatase inhibitor; BC: Breast Cancer; CDK: cyclin-dependent kinases CT: chemotherapy F: fulvestrant HER2: human epidermal growth factor receptor-2 HR+: hormone-receptor positive mTORi: mammalian target of rapamycin inhibitors Pi3Ki: phosphoinositide 3-kinase inhibitor QTc: QT corrected SoC: standard of care Tam: tamoxifen TNBC: triple negative breast cancer

Note: asset under investigation, not approved by regulators

(1) Waks AG, et al. JAMA 20019;321:288-300;

(2) Kantar Health – CancerMpac 2019;

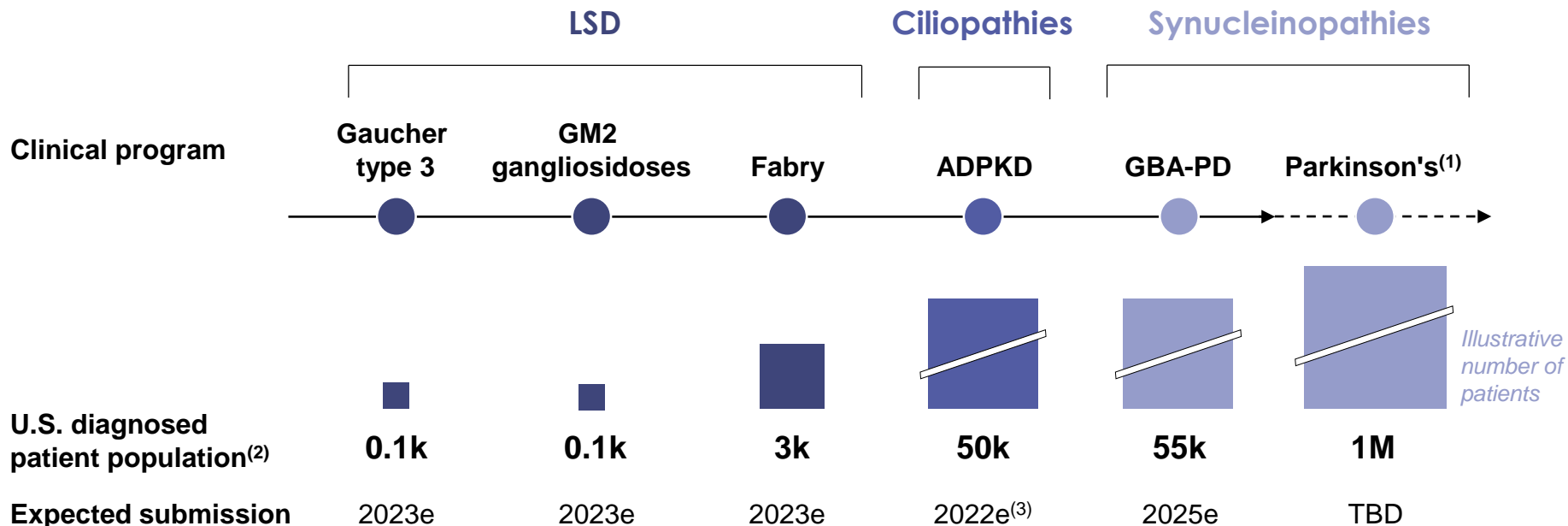
(3) Some patients only receive endocrine therapy, depending on disease staging

(4) Data to be disclosed at an upcoming medical meeting

(5) In vitro activity

Venglustat: Leveraging LSD biology in multiple rare diseases

GCS inhibition to potentially treat 3 types of disease



LSD: lysosomal storage diseases; GCS: glucosylceramide synthase; ADPKD: autosomal dominant polycystic kidney disease; GBA-PD: Parkinson's disease related to glucocerebrosidase (GBA) gene mutations

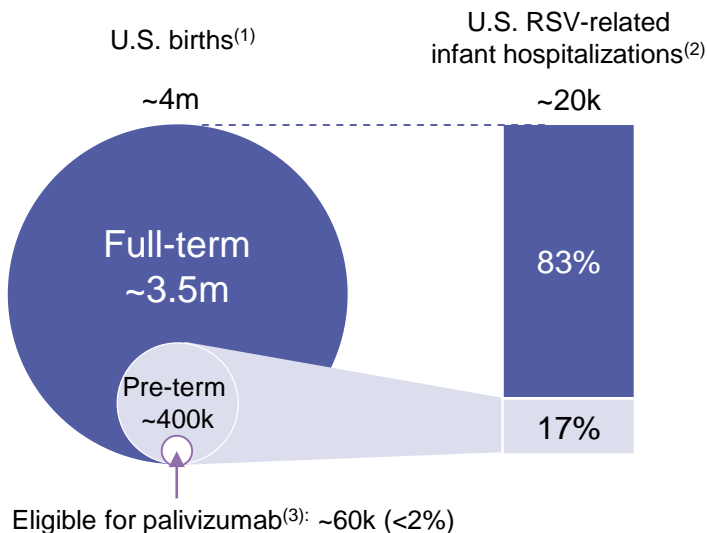
(1) Subset of patients being studied in GBA-PD development program

(2) Internal estimates

(3) Potential accelerated submission in the U.S. after Stage 1 of STAGED-PKD
Note: project under investigation, not approved by regulators

Nirsevimab: Goal to be cost-effective RSV prophylaxis for all infants

98% of infants still at risk



High disease burden

- High medical care costs from RSV-related LRTI (\$4.2bn⁽⁴⁾)
- Congested ER / ICU during RSV seasons
- Risk of long-term sequelae

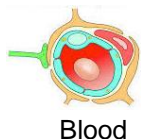
Nirsevimab has potential to cover all infants through single injection

BTKi ('168): Potential to be first DMT to address MS drivers in the brain

Current paradigm

High unmet needs

- Vast majority of MS patients still accumulate disability
- Safety concerns due to immuno-suppression



Blood

Periphery



B-cell

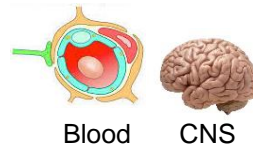
Adaptive immunity



B-cell

B-cell depletion
(>6m until recovery)

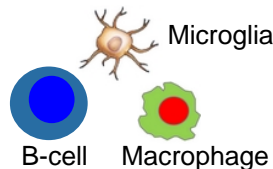
BTKi ('168)



Blood

CNS

Periphery & central
CNS exposure confirmed in phase 1 (BBB crossing)



B-cell

Macrophage

Adaptive & innate immunity
Thought to play a key role in MS progression⁽¹⁾



B-cell

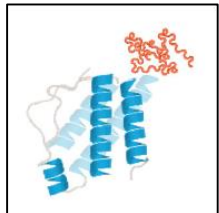
B-cell modulation
(5-7d until recovery)

Synthorx acquisition⁽¹⁾ perfectly aligned with R&D strategy



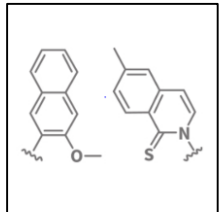
Company overview

- Clinical stage biotechnology company
- Founded in 2014, headquartered in San Diego, CA
- Listed on NASDAQ under ticker symbol THOR since December 2018



Lead program

- THOR-707 “not-alpha” IL-2 Synthorin for solid tumors in Phase 1/2
- Pre-clinical anti-tumor activity alone and in combination with anti-PD-1
- Very promising profile due to improved pharmacology and dosing

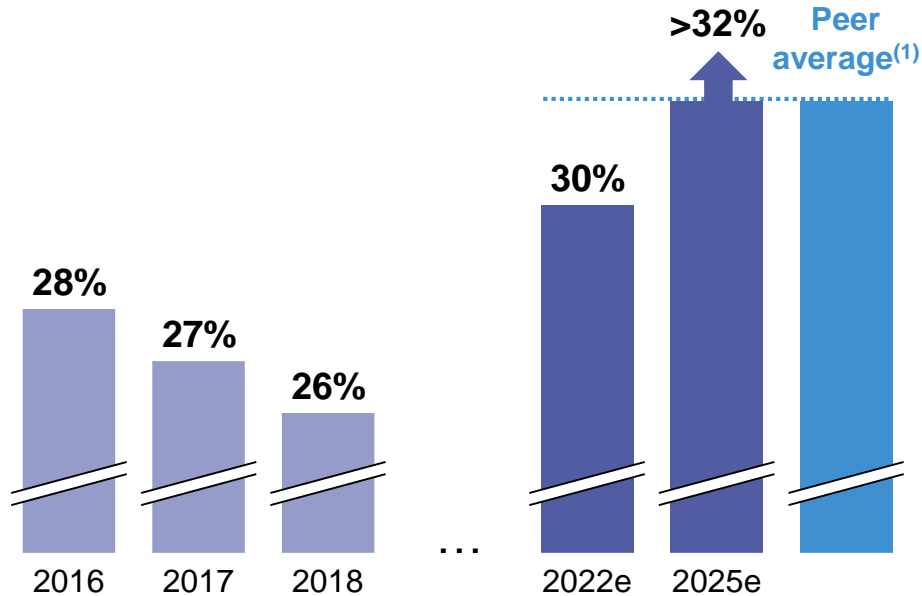


Expanded Genetic Alphabet platform

- Aims at optimizing therapeutics in oncology and autoimmune disorders
- Adds new DNA base pair, enabling incorporation of novel amino acids
- Designed to create optimized biologics referred to as Sythorins

Targeting 30% BOI margin by 2022

Sanofi expected BOI margin evolution

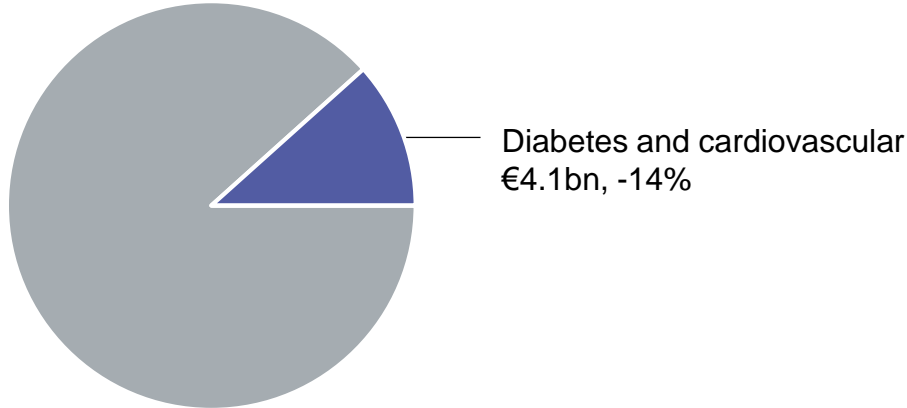


Expected margin drivers, 2019-2022

- Sales growth
 - Improved mix
 - Smart spending
 - Resource reallocation
 - Operational excellence
-
- Launch costs
 - Accelerate pipeline

Diabetes & cardiovascular cashflow to be maximized in mature markets

Declining DCV sales⁽¹⁾

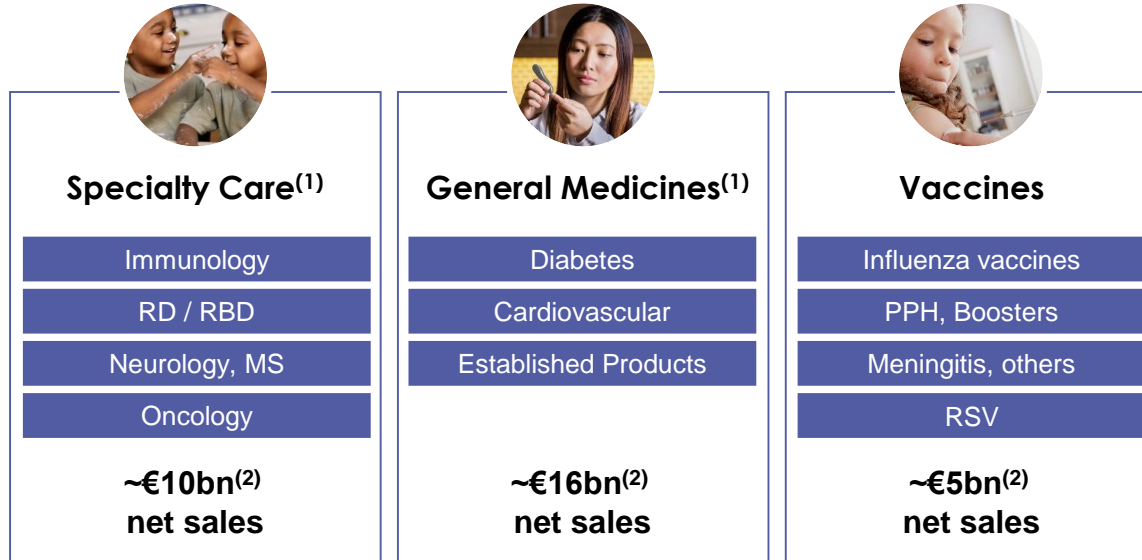


Immediate decisions⁽³⁾

- Discontinue DCV research
- Optimize commercial model
- No launch of efpeglenatide⁽²⁾
- Restructure Onduo JV
- Praluent[®] resources right-sized

New Global Business Unit organization to support strategy

3 core GBUs⁽³⁾ with focus on prioritized portfolio



Standalone⁽³⁾



Support Functions with shared governance

R&D & IA platforms

R&D / IA platforms

R&D / IA / Support Functions

Consumer healthcare – unlocking value

Mid-term objective



Sanofi CHC value drivers

- ✓ Rx-to-OTC switch growth opportunities
 - Cialis® unique product profile in erectile dysfunction
 - Tamiflu® for influenza prevention and care in the U.S.
- ✓ CHC digital transformation
 - Precision marketing
 - E-commerce
- ✓ Standalone - unlocking value
 - Enhancing speed and agility
 - Integrated R&D and manufacturing
 - Dedicated support functions and IT

China: Repositioning for new period of growth

Driving volume expansion in Established Products & Diabetes

- >60% volume growth in 2020 expected due to VBP bidding wins of Plavix® and Co-Aprovel®
- Accelerate injectables & new insulins⁽¹⁾ growth
- Counties adding a new China by 2030; winning with unique coverage of 1,600 counties
- Reshaping organization in anticipation of VBP

Create unique go-to-market model to improve patient access

Major growth opportunity with Specialty and Vaccines

- Dupixent® expected launch in Q4 2020, offering therapy for ~0.9m biologics eligible AD patients⁽²⁾
- 25+ launches in total by 2025 – focusing primarily on Rare Disease and Oncology
- Expected strong growth of Vaccines portfolio⁽³⁾

Accelerating mid-term growth & addressing unmet needs

Empowerment and accountability



Culture of accountability



Top ~200 leaders to be incentivized on TSR



Global to local model



Empowering and focusing people locally



Fully empowered GBUs



End-to-end responsibility from R&D to commercialization

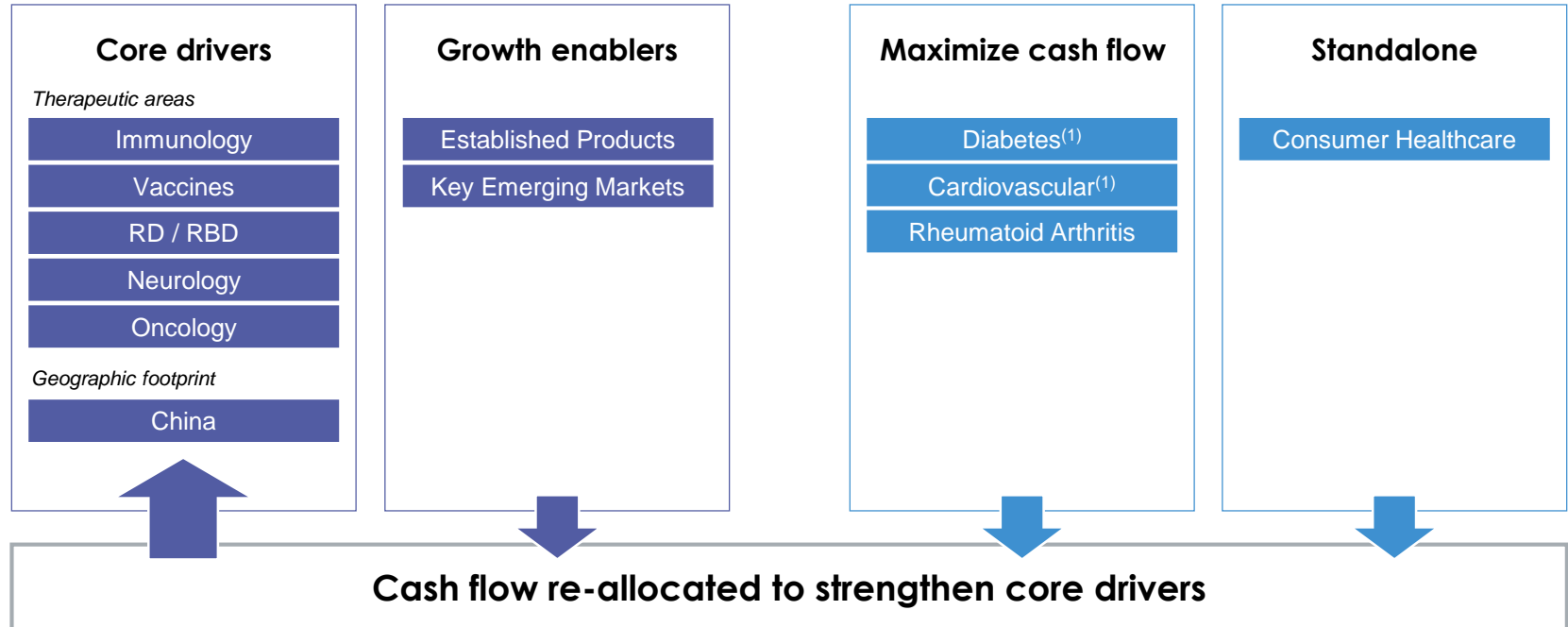


New ways of working




Allocate time to higher value activities, leveraging digital tools

Driving innovation and growth with strategic choices



Sanofi's value proposition to society



Sanofi is committed to innovation and access. We are helping patients and communities to achieve better health outcomes, through large-scale prevention and transformative medicines.



Margin expansion

Jean-Baptiste de Chatillon

EVP, Chief Financial Officer



Strategic choices expected to drive margin expansion

- De-prioritize non-strategic areas
- Implement smart spending
- Increase footprint efficiency

To fund top line growth

- Expand Dupixent® franchise
- Achieve mid-to-high single-digit growth in Vaccines⁽¹⁾
- Accelerate prioritized pipeline molecules

Margin expansion

Targeting
30% BOI
margin
by 2022

**Ambition for BOI margin
>32% by 2025**

€2 billion savings expected by 2022 to fund growth and drive margin expansion



Priorities

Limited spend on de-prioritized businesses

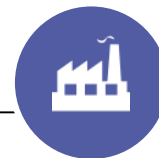
€0.5bn⁽¹⁾



Smart spending

Reduce demand, right-size specifications and negotiate prices

€1.0bn⁽¹⁾



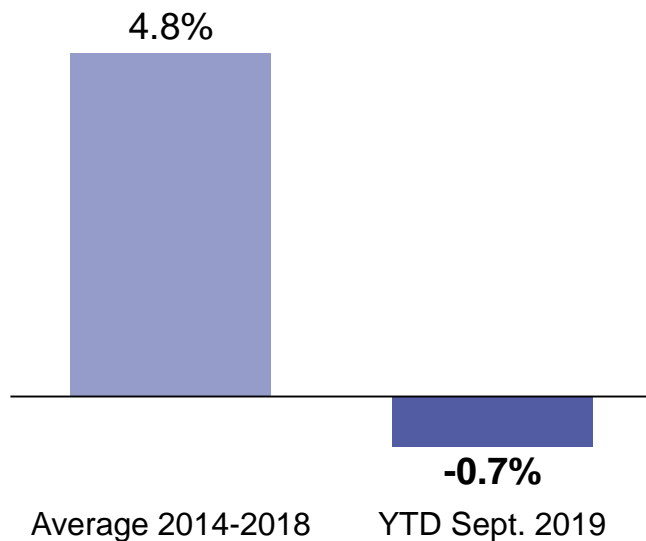
Operational excellence

Improve manufacturing efficiency and organizational productivity

€0.5bn⁽¹⁾

We are off to a good start in delivering efficiencies

Operating expense growth YoY at CER⁽¹⁾



€600M
2019 expected savings⁽²⁾

A change of mindset



Digitize work space

-18% Travel expenses⁽¹⁾

>11K Zoom⁽²⁾ meetings/day



Empower employees

-36% Consulting fees⁽¹⁾

2x Financial delegation increased



Deploy e-learning

-15% Training costs⁽¹⁾

10x Digital training



Right-size organization

-8% Support functions headcount⁽³⁾

-6% Real estate costs⁽³⁾

Incentives tied to Free Cash Flow⁽⁴⁾

Smart spending: €1.0 Billion savings expected by 2022

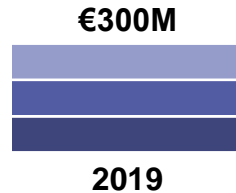


Spending

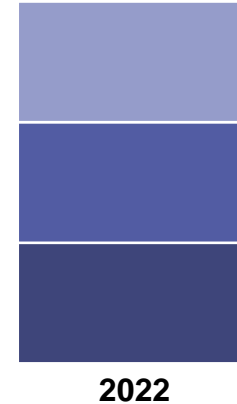


Procurement savings

Expected



Ambition €1.0Bn⁽¹⁾



- Demand management
- Specifications design
- Price negotiations

Operational excellence in Manufacturing



CMC digitalization acceleration⁽¹⁾: **aims at reducing lead time by 6 months and delivering 9 launches**

Factory of the future

Shift to 2nd generation processes⁽²⁾: **6 'lighthouse' digital sites⁽³⁾: decrease of plant cycle time by 20%**

Sanofi Manufacturing system

Top decile⁽⁴⁾ performance program expansion: **39 sites already enrolled, 49 by 2022**

Supply chain

Digitalization and AI forecasting to **reduce inventory level by 20 days**

Manufacturing procurement

Optimization of CMOs and suppliers: **reduce baseline by 20%**

CMO: Contract Manufacturing Organization; AI: Artificial intelligence; CMC: Chemistry, Manufacturing and Controls

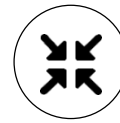
(1) ILAB

(2) For Vaccines & Biologics

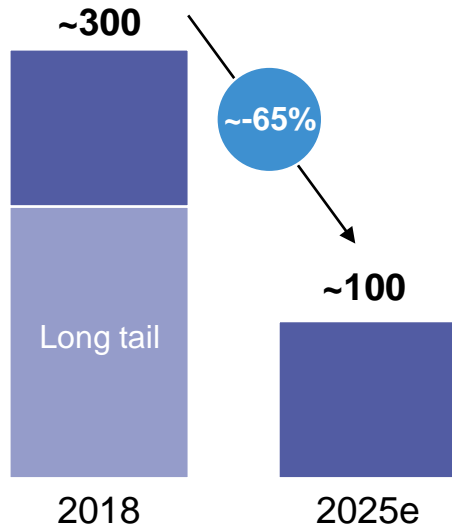
(3) Framingham (US), Toronto (CA), Suzano (BR), Sisteron (FR), Hangzhou (CN), Waterford (IE)

(4) Based on POBOS benchmark of manufacturing costs and productivity versus peers

Streamline Established Products portfolio



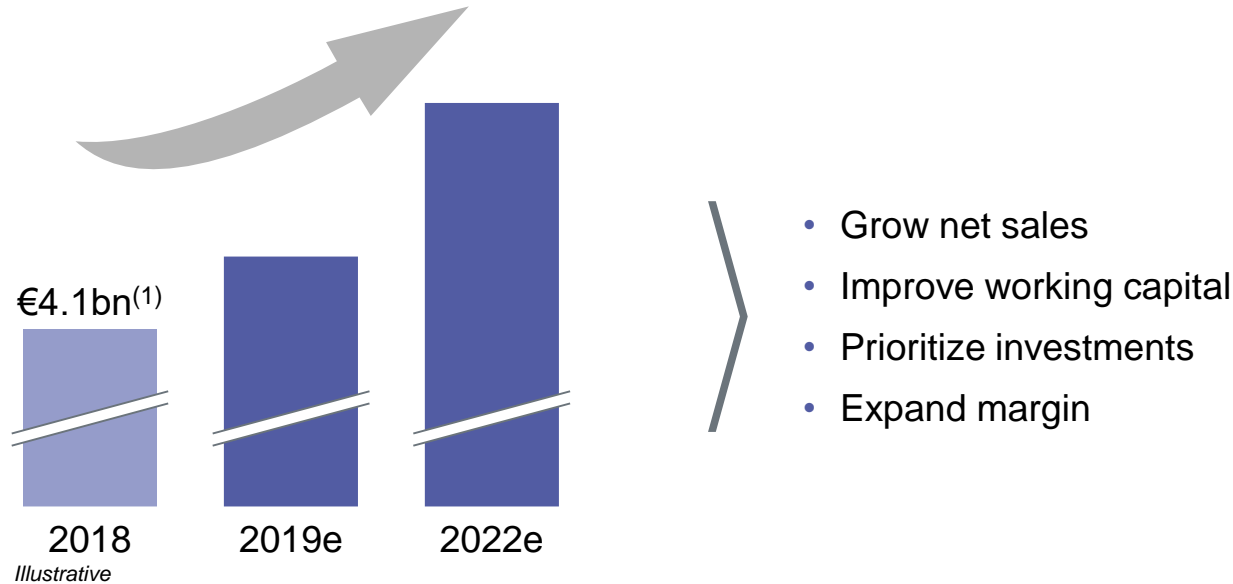
Number of product families



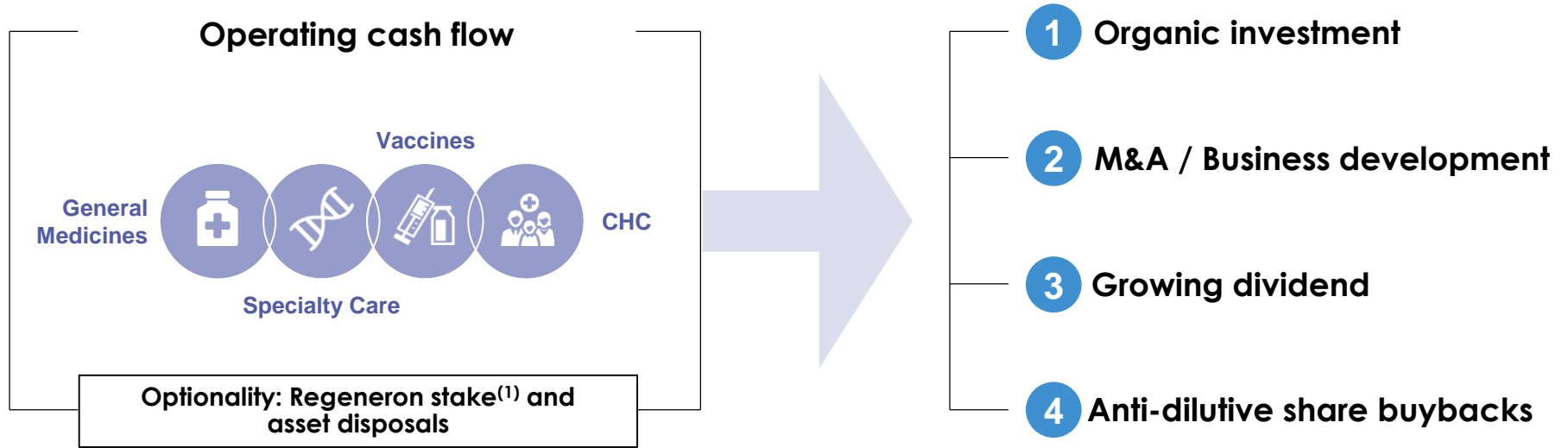
- Driving simplicity and agility
- Improving gross margin ratio
- Greater commercial focus on top products
- ~€1.5bn cash proceeds expected in 2019-2025

Objective to increase Free Cash Flow⁽¹⁾ by ~50% by 2022⁽²⁾

Free Cash Flow⁽¹⁾ evolution



Capital allocation



Key messages



€2bn savings expected by 2022 to fund growth and drive margin expansion



BOI margin expected to reach 30% by 2022 with ambition of >32% by 2025



Ambition to increase Free Cash Flow⁽¹⁾ by ~50% by 2022



Focused capital allocation and growing dividend



Lead with innovation

John Reed

EVP, Global Head of R&D



Next chapter for Sanofi R&D



Vision

- An industry innovation leader bringing transformative therapies to patients



Strategy

- Allocate resources to priority therapeutic areas
- Leverage multiple therapeutic modalities
- Accelerate development



Long-term objectives⁽¹⁾

- >80% first- or best-in-class
- ~70% biologics
- ~70% internally driven⁽²⁾

Potential transformative therapies

	Ambition	Planned initial submission ⁽⁵⁾
Dupixent[®](1)	Maximize patient benefit across type 2 inflammatory diseases	Launched
Fitusiran & BIVV001⁽²⁾	Delivering on new patient dynamics – convenience	2021e/2022e
SERD ('859)	Master switch for endocrine signaling in HR+ breast cancer	2021e
venglustat	Leveraging LSD biology in multiple rare diseases and beyond	2022e
nirsevimab⁽³⁾	Cost-effective RSV prophylaxis for <u>all</u> infants	2023e
BTKi ('168)⁽⁴⁾	First disease modifying therapy to address MS drivers in the brain	2024e

Priority assets fit with our long-term R&D objectives

	Potential first- or best-in-class	Biologic	Internally driven ⁽¹⁾
Dupixent ^{®(2)}	✓	✓	
fitusiran	✓		✓
BIVV001 ⁽³⁾	✓	✓	✓
SERD ('859)	✓		✓
venglustat	✓		✓
nirsevimab ⁽⁴⁾	✓	✓	
BTKi ('168) ⁽⁵⁾	✓		✓

(1) This includes assets discovered internally or wholly owned through acquisition and assets in-licensed at an early stage and for which Sanofi retains the majority of the share of the economics

(2) In collaboration with Regeneron, profit and loss split

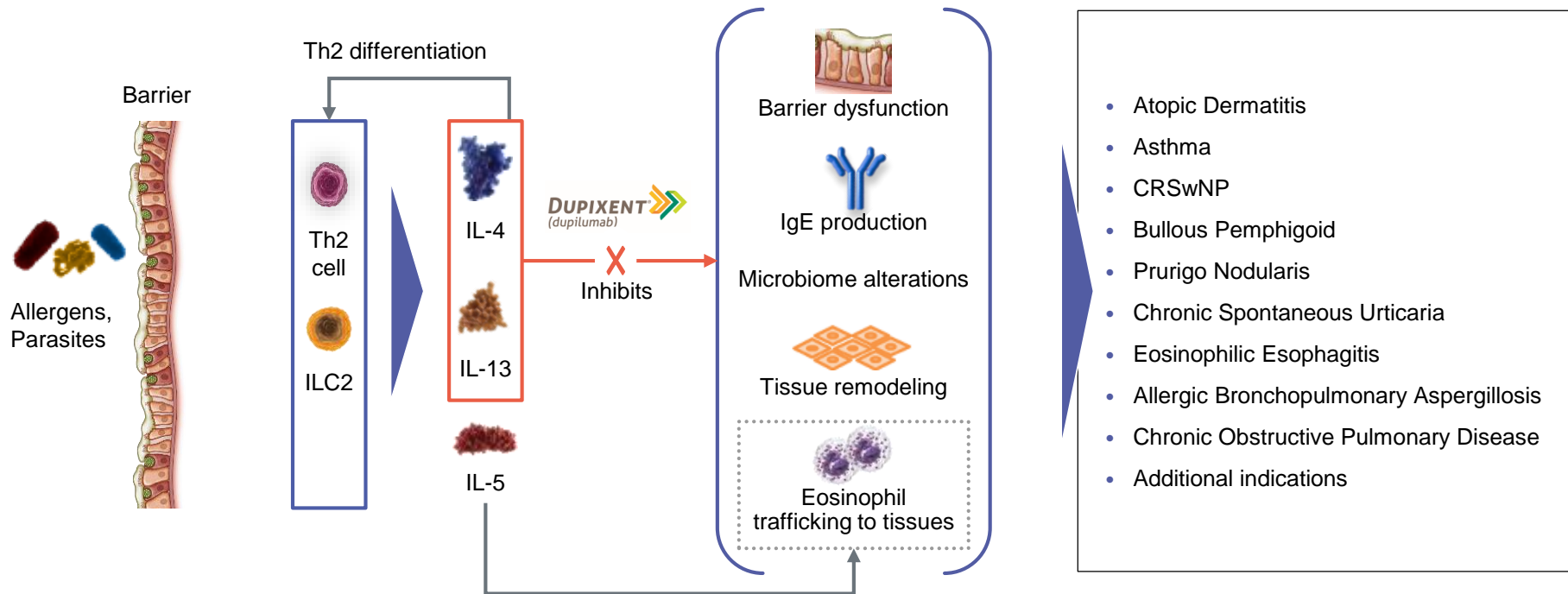
(3) In collaboration with Sobi, holds commercial rights for Europe, North Africa, certain

countries in Middle East, Russia

(4) In collaboration with AstraZeneca, profit and loss split

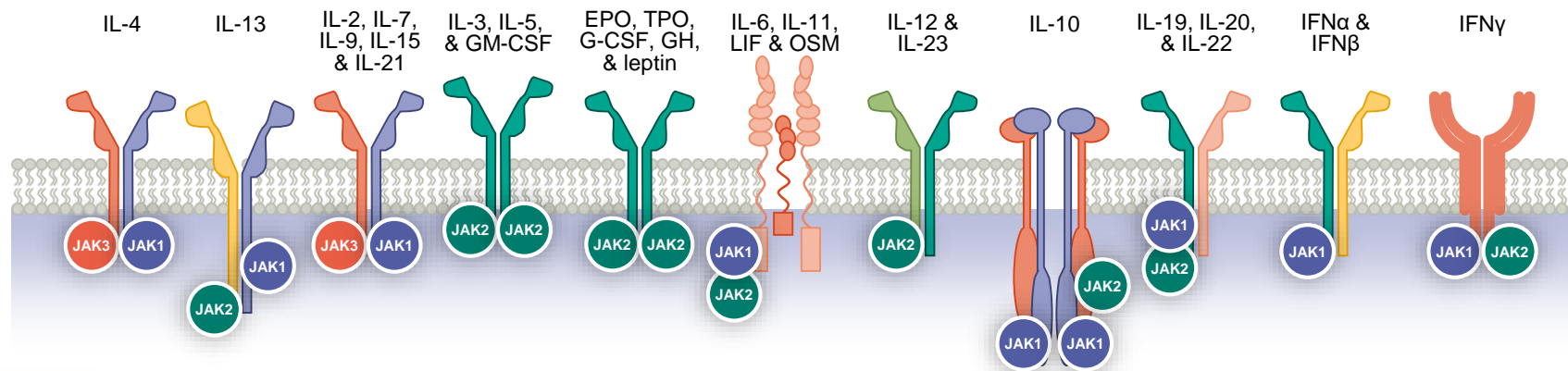
(5) In collaboration with Principia, Sanofi has led Ph2 MS development and Ph3 planning. Principia was responsible for Ph1 in healthy subjects

Dupixent[®](1): IL-4 & IL-13, central drivers of T2 inflammation



- Atopic Dermatitis
- Asthma
- CRSwNP
- Bullous Pemphigoid
- Prurigo Nodularis
- Chronic Spontaneous Urticaria
- Eosinophilic Esophagitis
- Allergic Bronchopulmonary Aspergillosis
- Chronic Obstructive Pulmonary Disease
- Additional indications

Dupixent[®](1): Greater specificity enabling safe profile



DUPIXENT
(dupilumab)

	IL-4	IL-13	IL-2, IL-7, IL-9, IL-15 & IL-21	IL-3, IL-5, & GM-CSF	EPO, TPO, G-CSF, GH, & leptin	IL-6, IL-11, LIF & OSM	IL-12 & IL-23	IL-10	IL-19, IL-20, & IL-22	IFNα & IFNβ	IFNγ
DUPIXENT (dupilumab)	×	×	-	-	-	-	-	-	-	-	-
JAK1	×	×	×	-	-	×	-	×	×	×	×
JAK2	-	×	-	×	×	×	×	×	×	-	×
JAK3	×	-	×	-	-	-	-	-	-	-	-

× Cytokine blockade

Dupixent[®](1): Safety supports pediatrics expansion

Robust safety(2)

Clinical trials

9,300+ patients
Studied across 23 clinical programs

6,500+ patients
Treated >1year





76-week long-term safety data
In adults (>18 years)

52-week long-term safety data
In adolescents (12-17 years)

Clinical practice

125,000+ patients
Treated globally since launch

Expanding to pediatrics

	Target regulatory submission
 AD 6-11 years <i>Breakthrough designation</i>	2019e
 AD <6 years	2022e
 Asthma 6-11 years	2021e
 Asthma <6 years	Under discussion

Dupixent[®](1): Expanding into adjacent Type 2 indications

Dermatology

Prurigo Nodularis

Biologic eligible
74k (U.S.)(2)

Submission
2021e



Before After

Chronic Spontaneous Urticaria

Biologic eligible
308k (U.S.)(3)

Submission
2022e



Before After

Bullous Pemphigoid

Biologic eligible
27k (U.S.)(4)

Submission
2022e



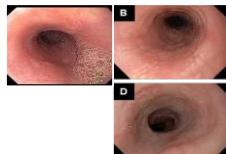
Before After

Respiratory & Gastro-Intestinal

Eosinophilic Esophagitis

Biologic eligible
48k (U.S.)(5)

Submission
2022e

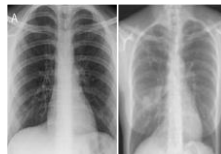


Normal Affected

Allergic Bronchopulmonary Aspergillosis

Pending approval as
standalone indication

Submission
2023e



Normal Affected

Chronic Obstructive Pulmonary Disease

Biologic eligible
300k (U.S.)(6)

Submission
2024e



Normal Affected

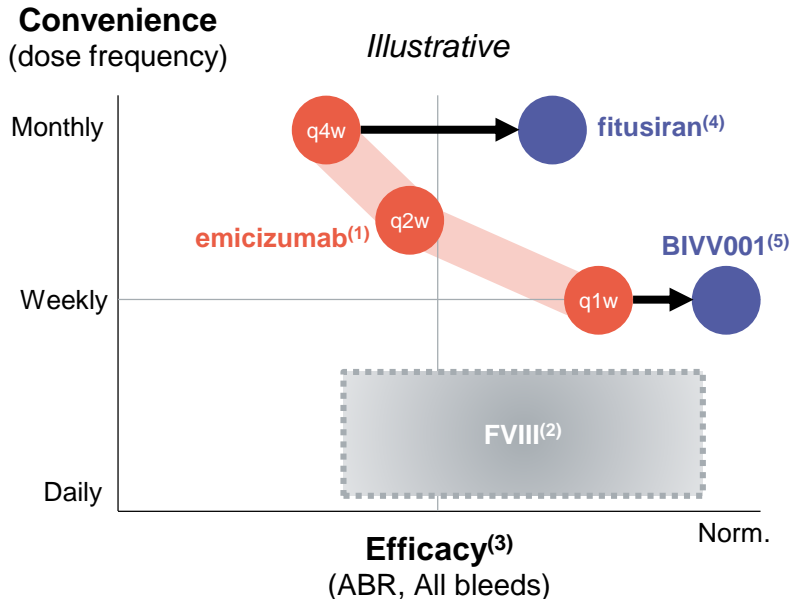
Dupixent[®] is not approved by regulators in any of the indications listed
Photos are not indicative of responses in all patients

- (1) In collaboration with Regeneron
- (2) Patients inadequately controlled by topical corticosteroids
- (3) Patients uncontrolled on anti-histamines/current SOC excluding biologics

- (4) Patients on chronic oral corticosteroids
- (5) Patients uncontrolled on high-dose proton pump inhibitor and topical steroid slurry and elimination diet / trigger avoidance
- (6) Uncontrolled type 2 inflammation population

Hemophilia: Patient experience drives choice

Target profiles vs. marketed products



Different patients, different needs

- Patients choosing SC monthly dosing (convenience)
 - Fitusiran aiming for ABR<1
 - Feasible with emicizumab only at ABR>2
- Patients choosing "active lifestyle" (efficacy)
 - BIVV001 is the only treatment to allow ~3.5 days of near-normal FVIII activity, allowing lifestyle similar to non-hemophilia patients
 - Current therapies may limit physical exercise from low FVIII activity levels and high dosing burden

ABR: annualized bleed rate; SC: subcutaneous; BIVV001 is in collaboration with SOBI
Fitusiran and BIVV001 are not approved by regulators

(1) emicizumab: 2.1 ABR @q4w; 1.6 ABR @q2w; 0.6 ABR @q1w (Hemlibra prescribing information; median ABR (HAVEN-3 for Q1w & q2w, HAVEN-4 for q4w)

(2) Individualized prophylaxis varies from daily to every 4 days and between <1 to >1 ABR

(3) No H2H studies comparing efficacy of emicizumab and fitusiran or BIVV001 have been conducted

(4) fitusiran: 0.97 ABR @q4w (Phase 2 OLE Interim Results);

(5) BIVV001: Target Product Profile aiming for weekly dose, and ~3.5 days with FVIII activity >40%

Fitusiran: Potential first high-efficacy monthly therapy

	emicizumab	fitusiran																
Patients	Hemophilia A patients With & without inhibitors	All Hemophilia patients <ul style="list-style-type: none"> • Hemophilia A & B • With & without inhibitors 																
Efficacy (ABR)¹	<table border="1"> <tr> <th>Dosing</th> <th>q4w</th> <th>q2w</th> <th>q1w</th> </tr> <tr> <td>Median ABR</td> <td>2.10</td> <td>1.60</td> <td>0.60</td> </tr> </table>	Dosing	q4w	q2w	q1w	Median ABR	2.10	1.60	0.60	<table border="1"> <tr> <th>Dosing</th> <th>q4w</th> <th>q2w</th> <th>q1w</th> </tr> <tr> <td>Median ABR</td> <td>0.97</td> <td>n/a</td> <td>n/a</td> </tr> </table>	Dosing	q4w	q2w	q1w	Median ABR	0.97	n/a	n/a
Dosing	q4w	q2w	q1w															
Median ABR	2.10	1.60	0.60															
Dosing	q4w	q2w	q1w															
Median ABR	0.97	n/a	n/a															
Safety	Profile evolving: thrombosis, TMAs No antidote available	Profile evolving: thrombosis (ph. 3 ongoing) Antidote available																
Convenience	<ul style="list-style-type: none"> • Subcutaneous • Up to 4 injections • Weight-based vs fixed dose • Increasing up to 4 ml for monthly dose⁽²⁾ • Cold chain required • No pre-filled syringe 	<ul style="list-style-type: none"> • Subcutaneous • Single injection • Fixed dose • Low volume <1ml • No cold chain • Pre-filled syringe 																

ABR: annualized bleed rate; TMA: thrombotic microangiopathy
 No H2H studies comparing efficacy of fitusiran and emicizumab have been conducted
 (1) Patients without inhibitors: Hemlibra prescribing information (USPI 2018), median ABR (HAVEN-3 for q1w & q2w, HAVEN-4 for q4w); fitusiran Phase 2 OLE interim results,

median ABR (19 subjects without inhibitors)
 (2) Weight-based dosing
 Fitusiran is not approved by regulators

Fitusiran: >70% enrollment achieved in ATLAS Ph3 program



- Adults & adolescents with hem A or B with inhibitors
- On-demand bypassing agents
- N ~50



9 months



- Adults & adolescents with hem A or B without inhibitors
- On-demand factor replacement
- N ~120



9 months



- Adults & adolescents with hem A or B with or without inhibitors
- Prophylaxis
- N ~70



6 months
Factor/BPA



6 months
fitusiran



Endpoints

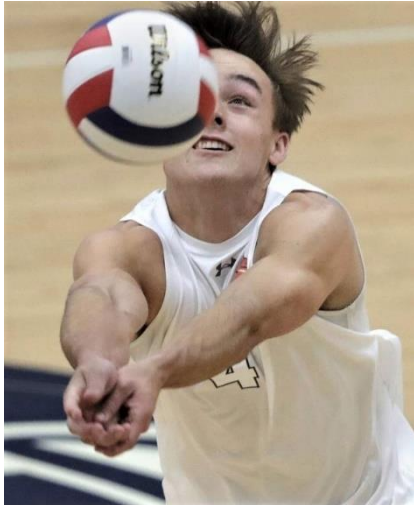
- ABR (spontaneous/joint)
- QoL



All completers will be eligible for fitusiran treatment in the Phase 3 Open-Label Extension study

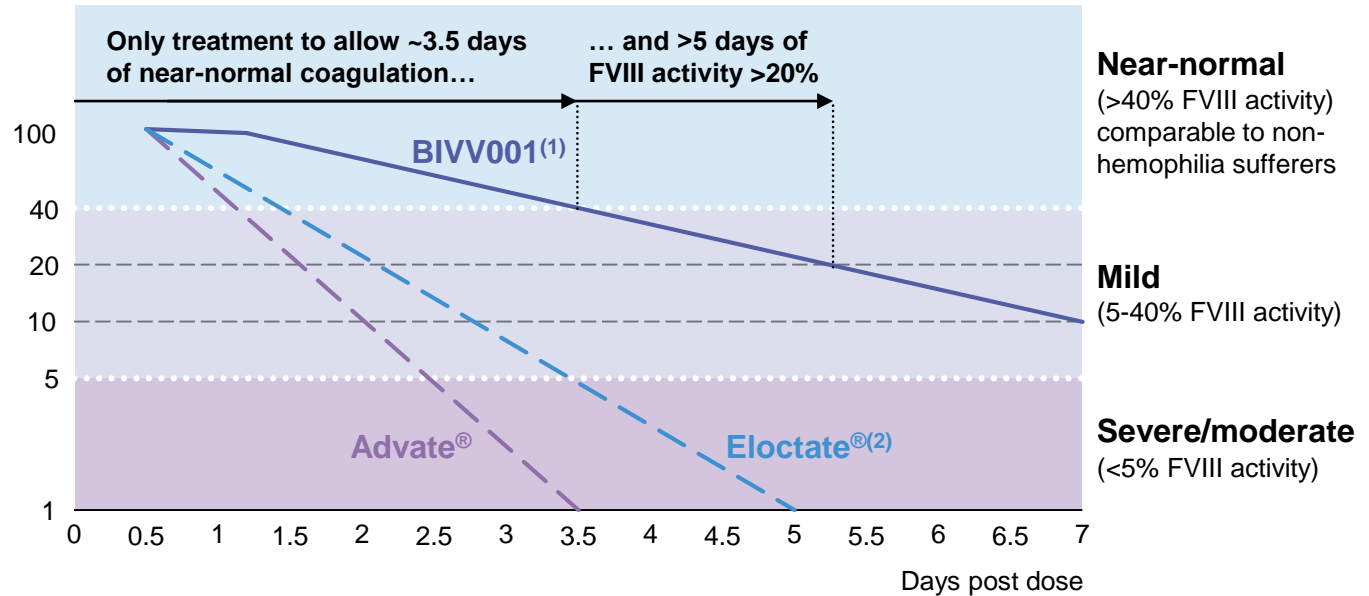
U.S. submission expected 2021

BIVV001: Potential to allow more active lifestyle



Carter, 19, is attending Vanderbilt University where he plays volleyball. He has severe Hemophilia A.

FVIII activity (%), logarithmic scale



(1) 50 IU/Kg every seven days after fourth dose (n=9) – aPTT assay (aPTT: activated partial thromboplastin time)

(2) Mahlangu, J., *et al*, Blood, 123(3), 317–325.

Sources: Konkle *et al*, oral presentation at ISTH, July 2019; Lissitckov *et al*, poster at ISTH, July 2019; F Peyvand, I Garagiola, and G Young. Lancet 2016; 388: 187–97

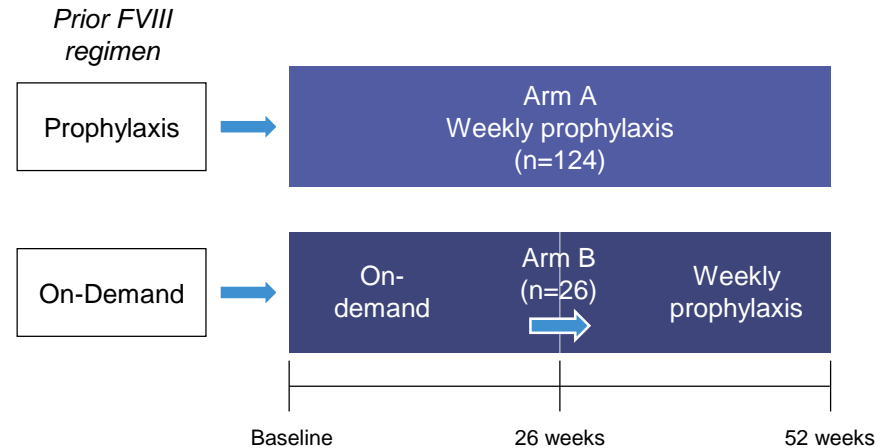
BIVV001 is in collaboration with Sobi and is not approved by regulators

FVIII: Factor 8; IU/kg: international unit per kilogram

BIVV001: Registration study initiated

Phase 3 study in previously treated patients ≥ 12 years (n=150)

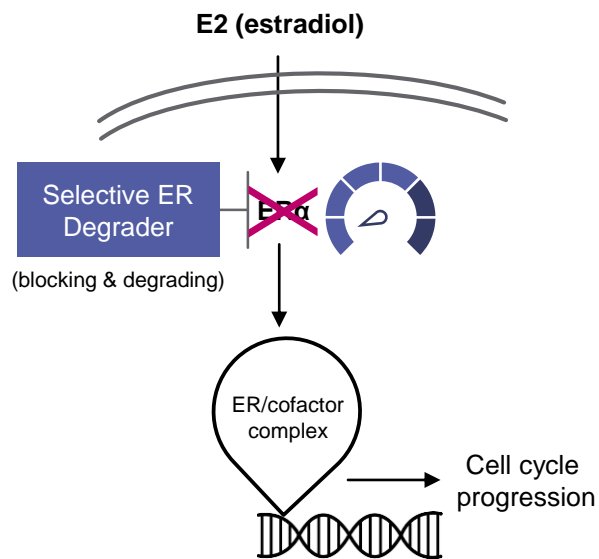
- Primary endpoint: ABR in Arm A⁽¹⁾
- Novel endpoints include joint health via ultrasound and physical activity monitoring
- Dose: 50 IU/kg once per week
- Rapid enrollment expected (prospective study + community excitement)



U.S. submission expected H1 2022

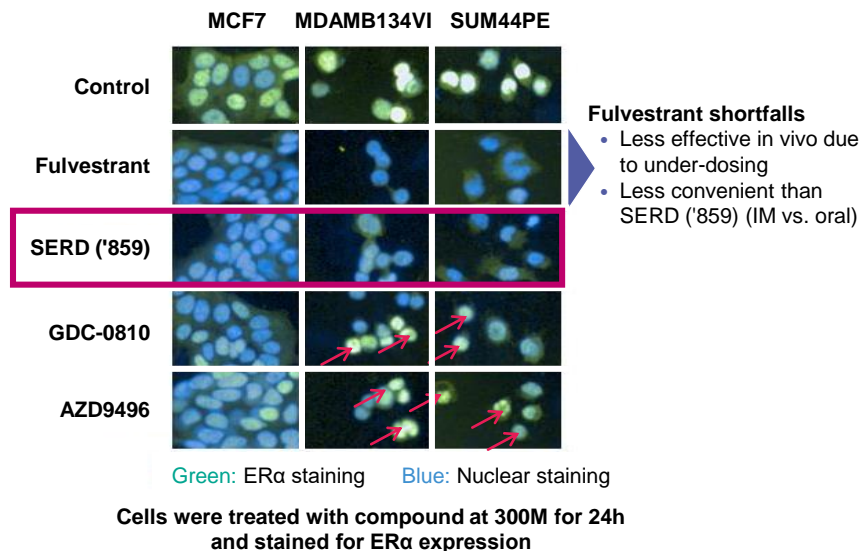
SERD ('859): Aiming for new standard of care in HR+ BC

MoA: completely shutting down estrogen signaling



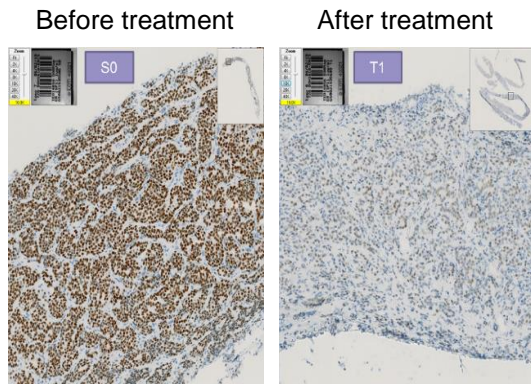
In vitro activity similar to fulvestrant⁽¹⁾ but orally administered

Preclinical data

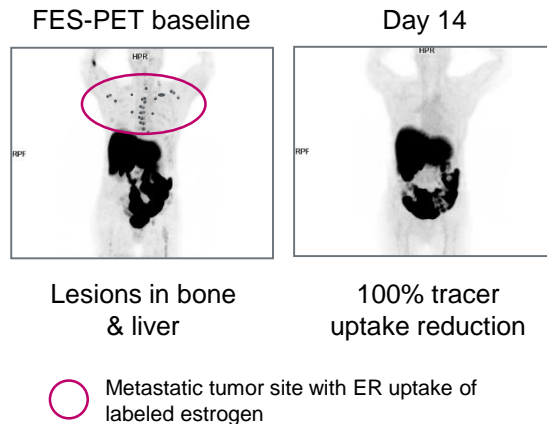


SERD ('859): Early data supporting best-in-class ambition

Full ER degradation⁽¹⁾



Lesion signals blocked⁽²⁾

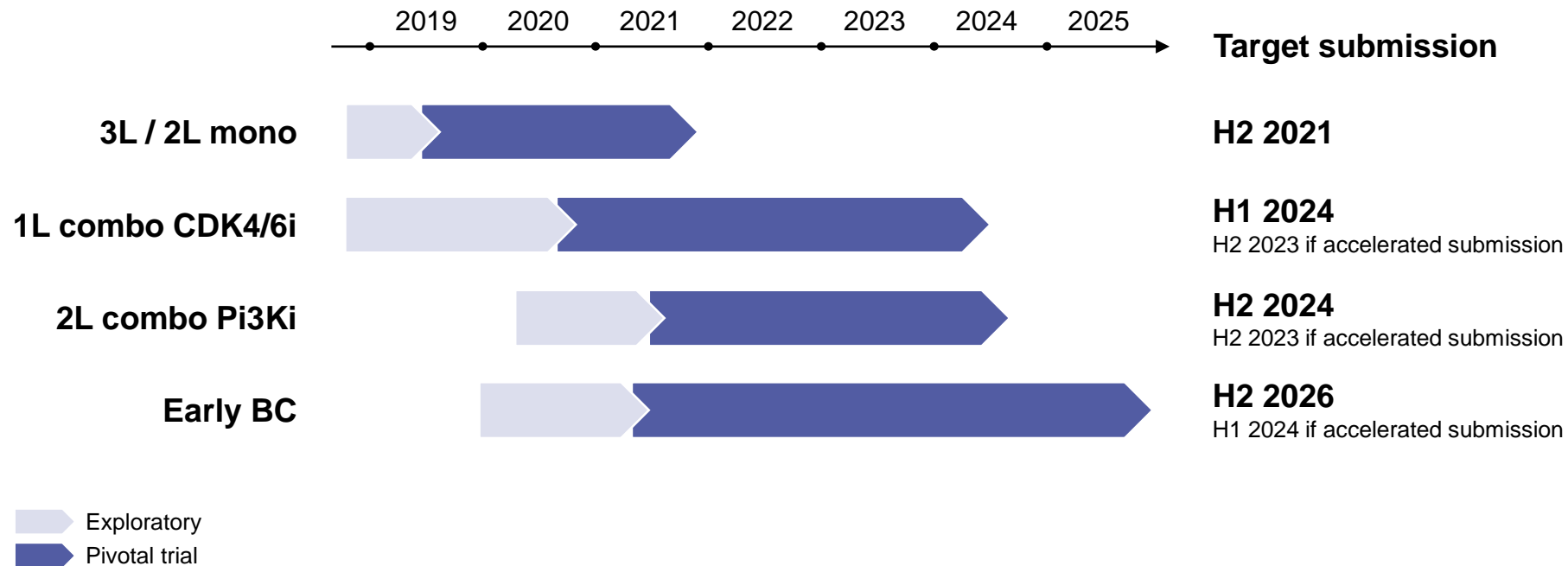


Promising Ph1 results⁽³⁾

- Promising early efficacy
- Favorable safety and tolerability
 - No related Grade 3 events
 - No bradycardia
 - No QTc prolongation
- FDA Fast Track granted

Favorable safety / tolerability profile supporting ambition of potential endocrine backbone

SERD ('859): Potential to move quickly to early lines

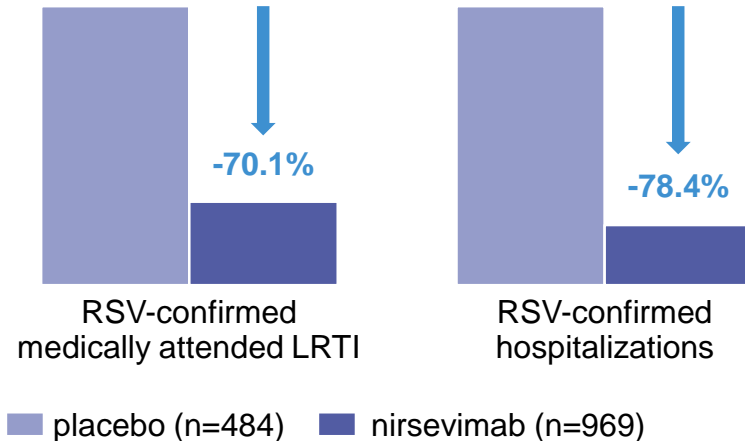


Nirsevimab⁽¹⁾: Aiming for cost-effective RSV prophylaxis

Strong risk reduction in healthy pre-term infants 29-35 weeks

Flexible dosing to cover all infants during their first RSV season

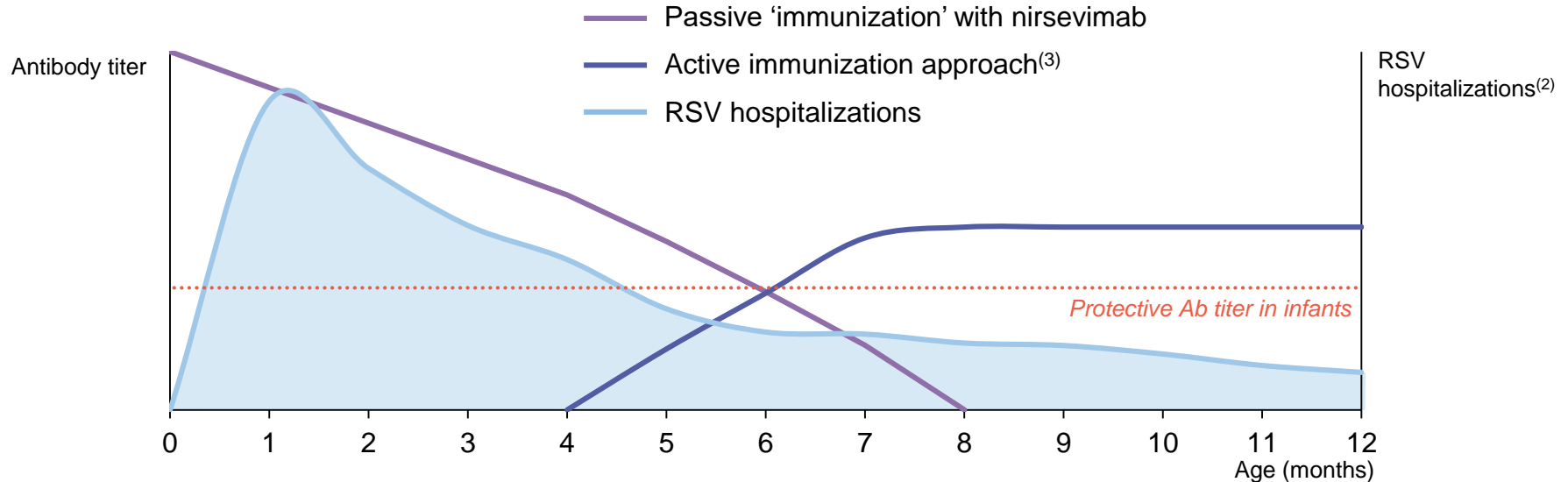
Phase 2b data (n=1,453)⁽²⁾



- Single injection
- Administration independent of gestational age
 - At birth for born-in-season infants
 - Just prior to RSV season for born out-of-season infants to ensure protective Ab titer through the season

FDA breakthrough therapy designation and EMA Priority Medicine

Nirsevimab⁽¹⁾: Addressing shortfall of active immunization



Passive 'immunization' is the only approach to provide sufficient Ab titer when risk is highest

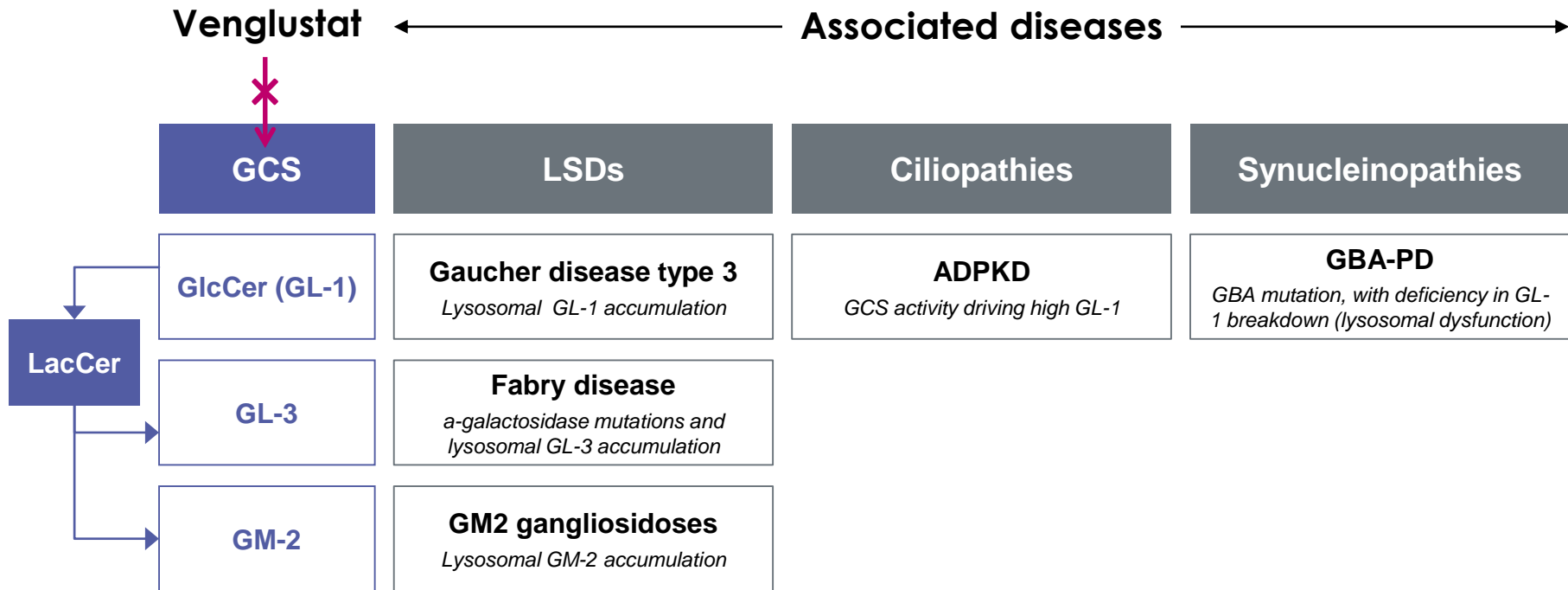
Nirsevimab⁽¹⁾: Submission expected by 2023

	MELODY	MEDLEY
Phase	Phase 3	Phase 2/3
Endpoint	Safety and efficacy	Safety
Control	Placebo	palivizumab
Patients	>35wk healthy infants (n=3,000)	High-risk infants (n=1,500)
Study end ⁽²⁾	2023e	2021e



**Target
submission:
2023e**

Venglustat: Leveraging LSD biology in multiple rare diseases and beyond

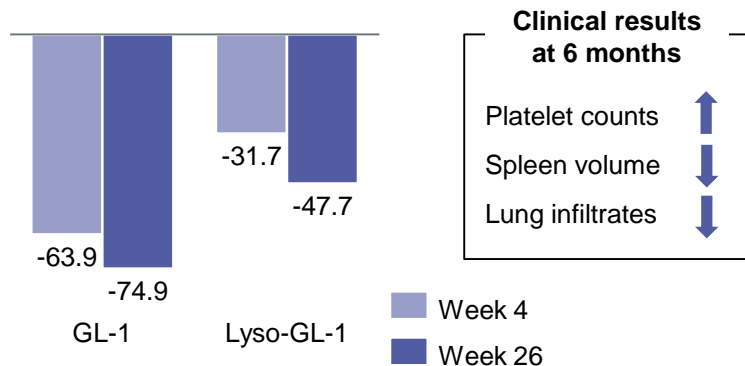


Venglustat: Mechanism already validated in LSDs

Gaucher disease type 3

- Potential first-in-class neurologic GD-3 treatment
- ~300 diagnosed patients in U.S., Europe & Japan

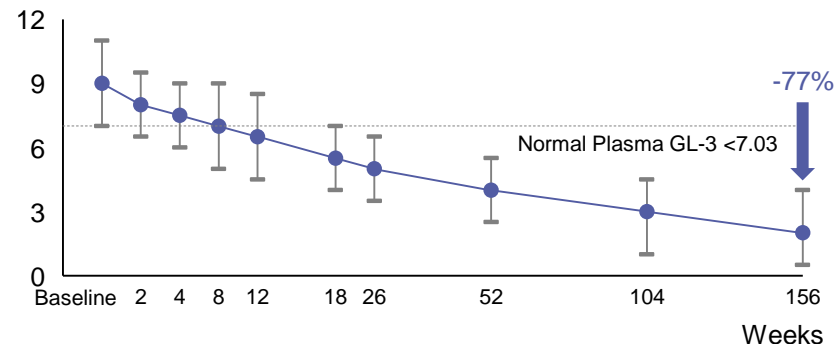
Mean change of biomarkers from baseline in CSF (n=4)⁽¹⁾



Fabry disease

- Potential best-in-class oral therapy option⁽²⁾
- ~10,000 diagnosed patients in U.S., Europe & Japan

Plasma GL-3 (n=7)⁽³⁾
globotriaosylceramide (µg/ml)

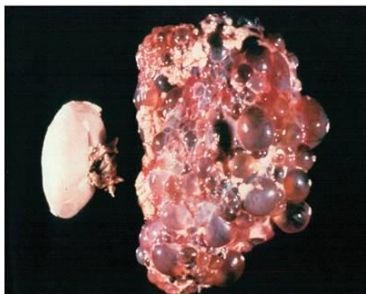


>250 patients treated across 5 indications, extended safety data up to 3 years for some patients

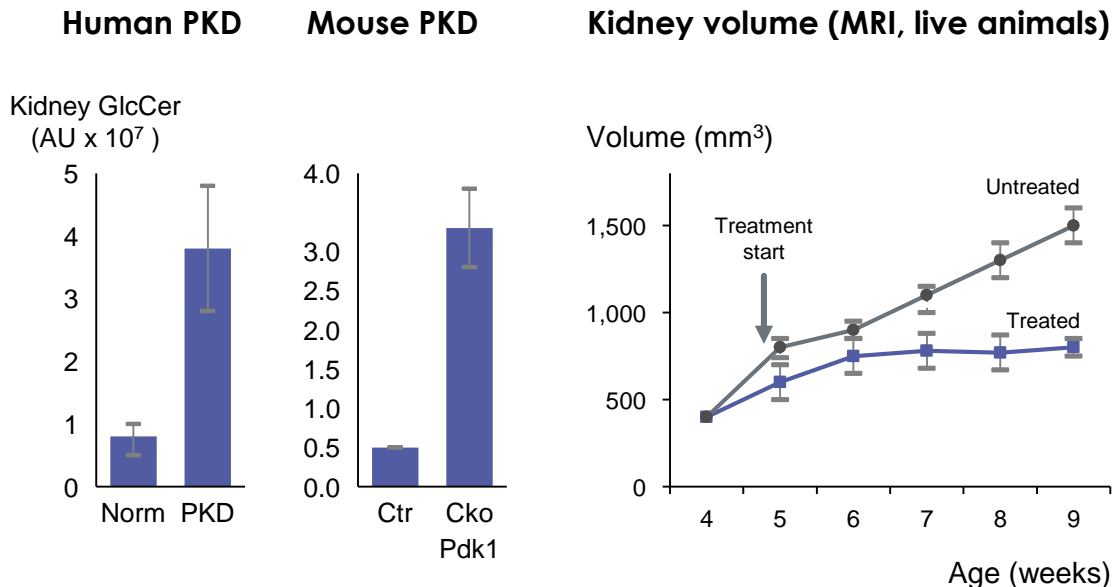
Venglustat: Transformative potential in ADPKD

High unmet need

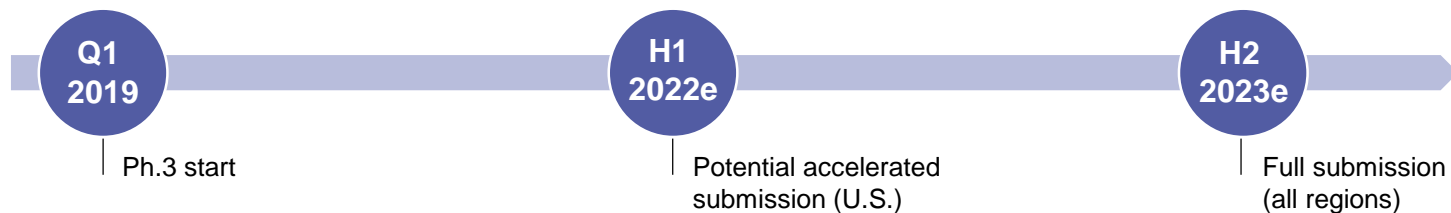
- ~340,000 patients in U.S., Europe & Japan, ~37% rapidly progressing⁽¹⁾
- Significant tolerability issues of current therapies (e.g., polyuria, dehydration)
End-stage ADPKD:



Robust pre-clinical data in validated animal model⁽²⁾

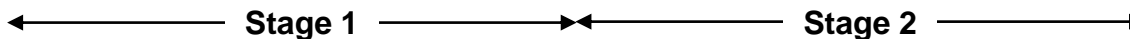


Venglustat: STAGED-PKD – potential submission by 2022e



Patients selection

- Class 1C-E⁽¹⁾
- eGFR 45-90 ml/min
- Age 18-50



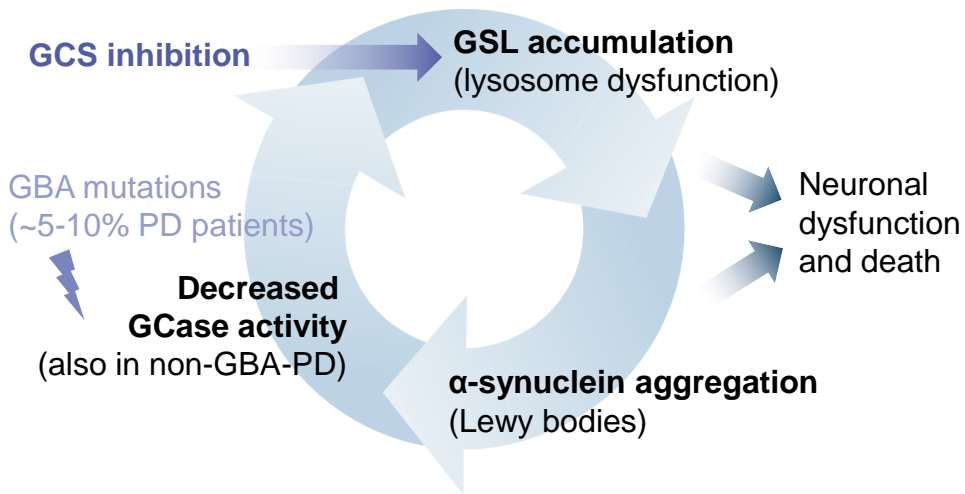
Primary endpoint: reduction in TKV vs. placebo @18 months

No pause

Primary endpoint: reduction in eGFR vs. placebo @24 months

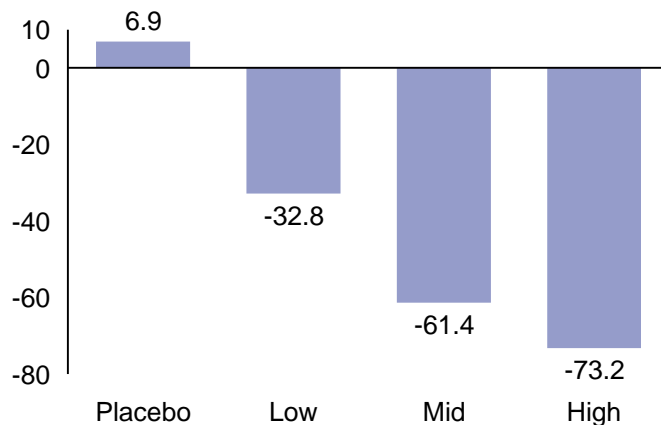
Venglustat: Potential first DMT for genetically defined Parkinson's disease subpopulation

GSL accumulation in Synucleinopathies



GSL-1 reduction in plasma and CSF

Mean % change in CSF GL-1 at week 4 across doses⁽¹⁾

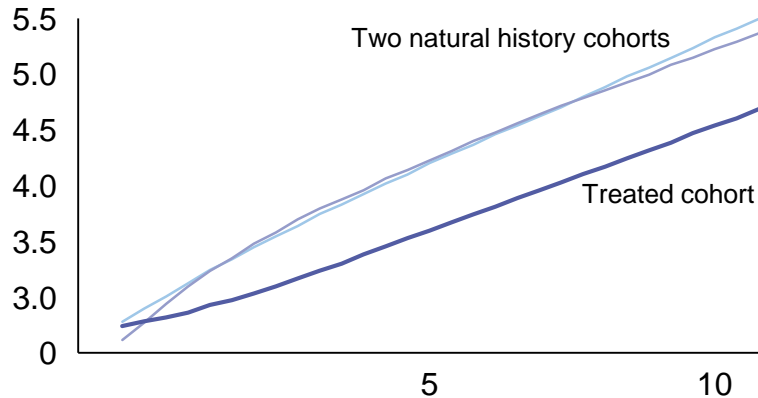


~20% of idiopathic PD patients anticipated to be included in phase 3 (FDA recommendation)

BTKi ('168)⁽¹⁾: MS patients still accumulate disability

EDSS worsening over time⁽²⁾

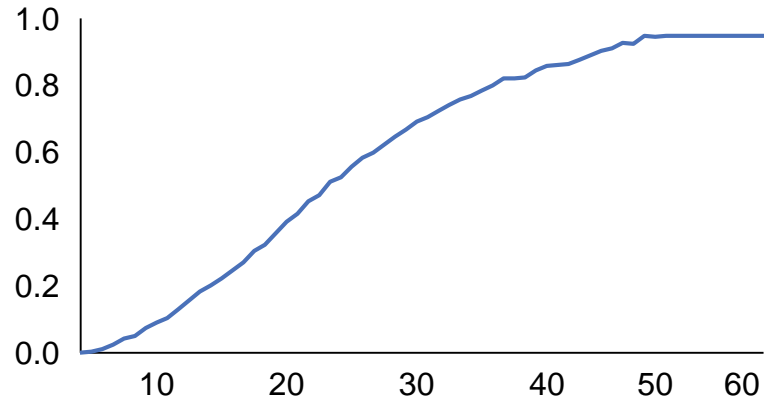
Average EDSS score



Time since eligible for treatment⁽³⁾

SPMS conversion over time⁽⁴⁾

Proportion converting

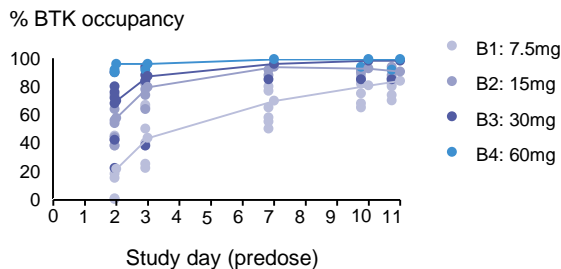


Disease duration (years)

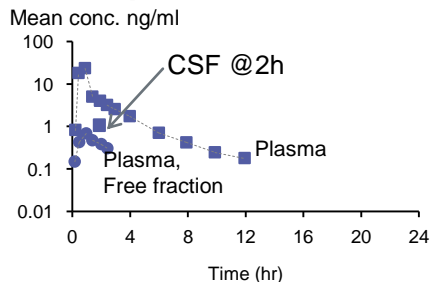
BTKi ('168)⁽¹⁾: Best-in-class potential in DMT segment

Phase 1 results⁽²⁾

Rapid and durable BTK occupancy



CNS exposure confirmed



Competitive profile⁽³⁾

	ocrelizumab	evobrutinib	BTKi ('168)	
Efficacy	CNS inflammation	✗	✗	✓
	Microglia (innate immunity)	✗	✗	✓
Safety	B-cell modulation (vs. depletion)	✗	✓	✓
	No liver enzymes elevation	✓	✗	✓ ⁽⁴⁾
Convenience	Oral	✗	✓	✓

BTKi ('168)⁽¹⁾: Ready to launch trials across full MS spectrum



**Go/no-go decision
(efficacy & safety)**

- Relapsing multiple sclerosis (RMS)
 - Target submission: H1 2024e
- Primary progressive multiple sclerosis (PPMS)
 - Target submission: H1 2025e
- Secondary progressive multiple sclerosis (SPMS)
 - Target submission: H1 2025e

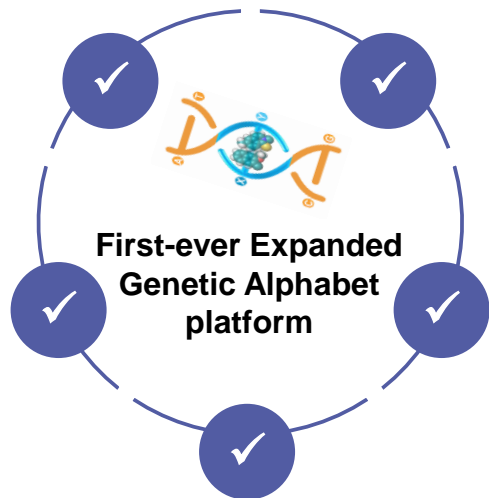
Expected next steps for potentially transformative assets

	Upcoming milestones Next steps		Acceleration potential
fitusiran – Hem A/B	1H-21 Pivotal results	2H-21 Submission	Earlier submission for inhibitor population, potential priority review
BIVV001 – Hem A	Dec '19 Phase 3 initiation (achieved)	2H-21 Pivotal results 1H-22 Submission	
venglustaf⁽¹⁾ – ADPKD	2H-20 Futility analysis	2H-21 Pivotal results 1H-22 Submission	Dates reflect accelerated approval strategy for U.S. ⁽²⁾
venglustaf⁽¹⁾ – GBA-PD	1H-21 PoC (MOVE-PD)	2H-21 Pivotal study start 2025 Pivotal results 2025 Submission	
SERD ('859) – HR+BC (all lines)	2H-19 PoC (achieved)	1H-21 Pivotal results (2L/3L mono) 2H-21 Submission (2L/ 3L mono) 2024 Pivotal results (1L/2L combo)	Potential accelerated U.S submission by 2H-23 for 1L/2L combo Exploring fast route to early BC
nirsevimab – infant RSV prophylaxis	1H-23 Pivotal data	2023 Submission	Potential for priority review
BTKi ('168) – MS (all forms)	1H-20 PoC	2H-20 Pivotal study start (RMS, PPMS, SPMS) 2024 Pivotal results	Potential for priority review

Synthorx promising assets synergistic with Sanofi pipeline

Lead asset THOR-707,
very promising IL-2

Platform of Synthorins in
oncology and immunology

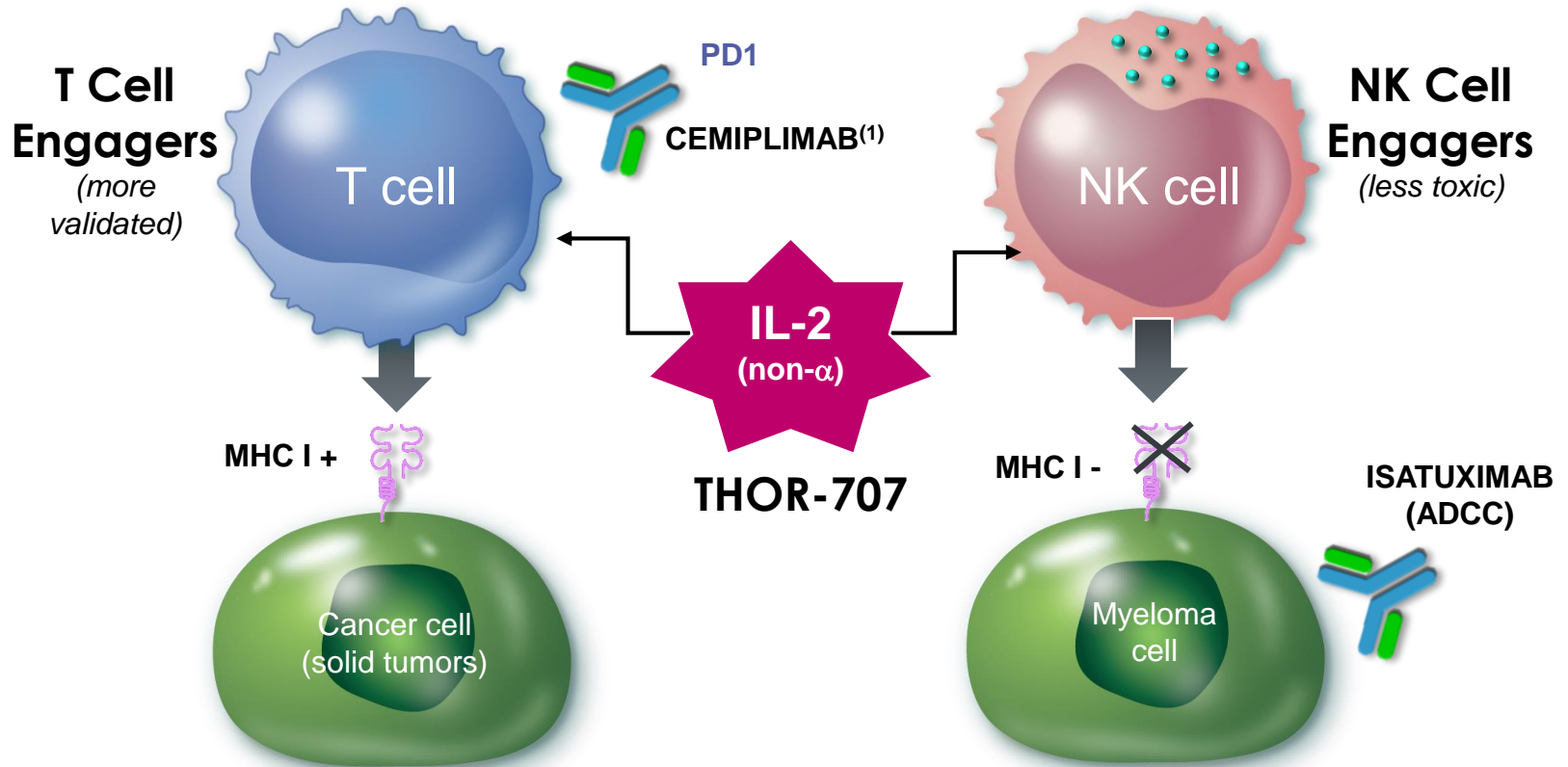


IL-2 potential foundation of IO-IO
combinations (i.e. PD-1, CD-38)

Advancing preclinical IL-15
and IL-10 Synthorins

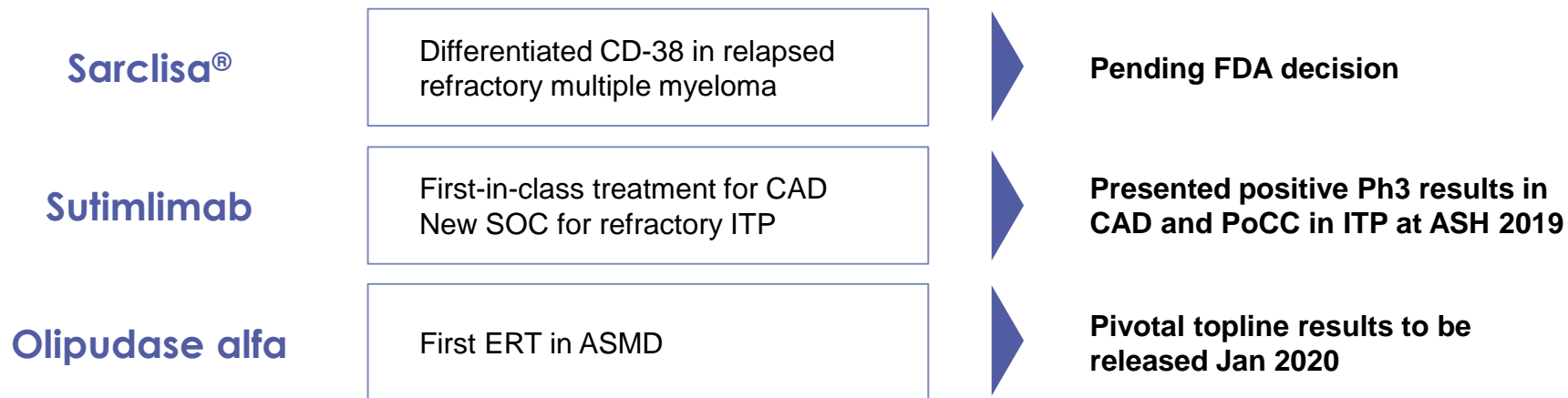
Significant synergies with Sanofi R&D novel platforms
(i.e. drug conjugates, protein fusions, multi-specific biologics,
and nanobody[®] technology)

Dual Strategy for THOR-707: Exploit T and NK cell



Recent accomplishments from our late-stage pipeline

Ambition



Sutimlimab pivotal data presented at ASH

Serious autoimmune hemolytic anemia

- Diagnosed patients: ~10,000 in U.S., EU5, JP⁽¹⁾
- Chronic hemolytic anemia, independent of season
- Debilitating fatigue and impaired QoL
 - Increased outpatient, inpatient, and ER utilization
- Hemolysis in CAD is driven by the classical complement pathway
- No currently approved therapies
- Sutimlimab selectively targets C1 in the classical complement pathway leaving the lectin and alternative pathways intact
- U.S. submission expected in Q1 2020

Rapid, sustained hemolysis resolution and QoL benefit (n=22)⁽²⁾

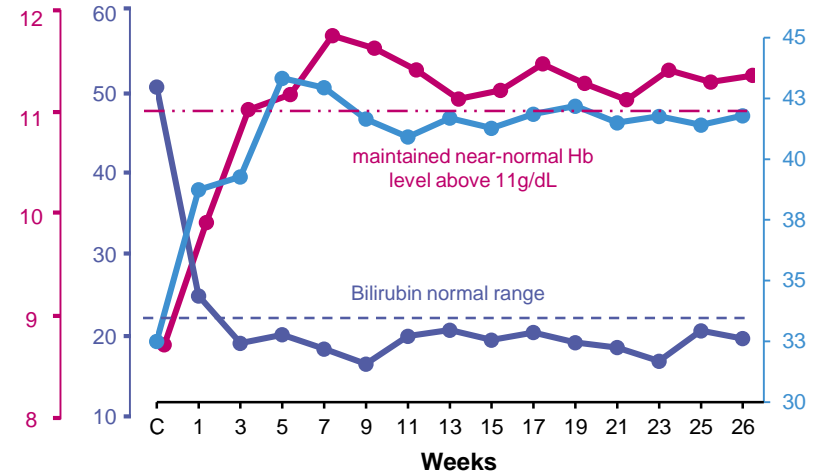
Marker of hemolysis

Mean Hb
(g/dL)

Mean bilirubin
($\mu\text{mol/L}$)

Marker of QoL

Mean FACIT-Fatigue
score



Key messages



Continuing transformation of Sanofi R&D



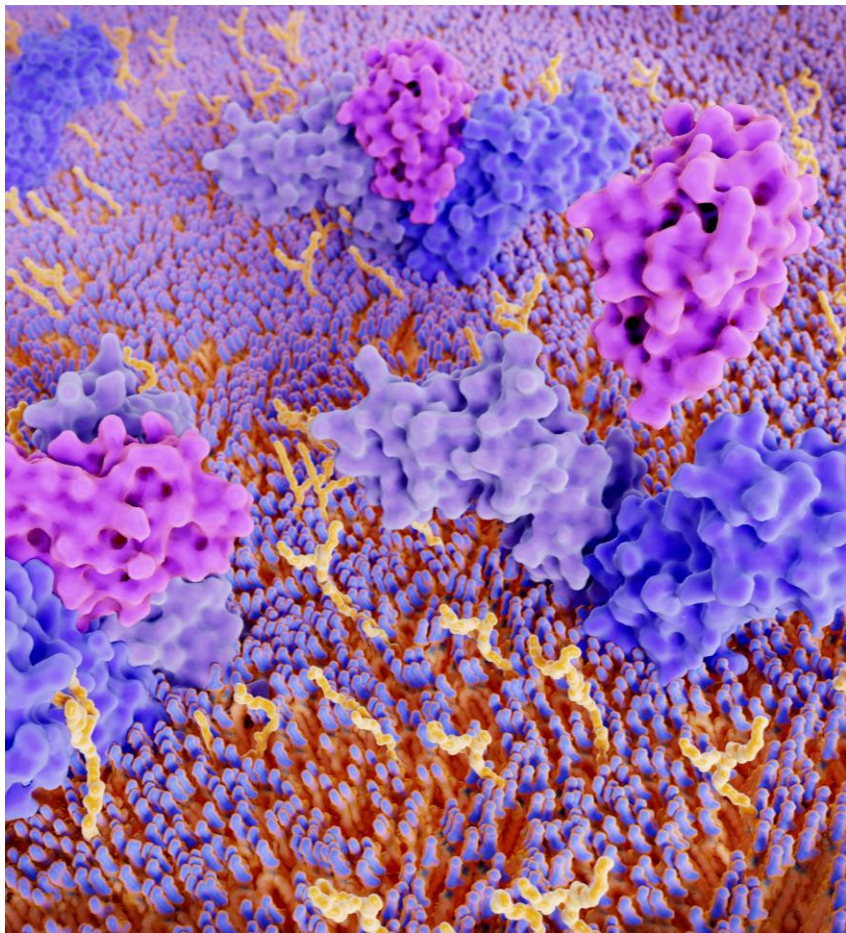
Resources allocated to priority areas



Focus on transformative therapies (T2 biology and priority assets)



Execute to secure accelerated time to market



Capital Markets Day

Financial appendices

December 10, 2019



SANOFI

Definitions

Free Cash Flow

Free Cash Flow is a non-GAAP financial performance indicator which is reviewed by our management, and which we believe provides useful information to measure the net cash generated from the Company's operations that is available for strategic investments¹ (net of divestments¹), for debt repayment, and for capital return to shareholders. Free Cash Flow is determined from the Business Net Income adjusted for depreciation, amortization and impairment, share of profit/loss in associates and joint ventures net of dividends received, gains & losses on disposals, net change in provisions including pensions and other post-employment benefits, deferred taxes, share-based expense and other non-cash items. It comprises net changes in working capital, capital expenditures and other asset acquisitions² net of disposal proceeds², and payments related to restructuring and similar items. Free Cash Flow is not defined by IFRS and it is not a substitute measure for the IFRS aggregate net cash flows in operating activities. ¹Amount of the transaction above €500 million; ²Not exceeding €500 million

Business Operating income (BOI)

Sanofi reports segment results on the basis of "Business Operating income". Business Operating income is a non-GAAP financial performance indicator. This indicator is used internally by Sanofi's chief operating decision maker to measure the performance of each operating segment and to allocate resources.

Business operating income is derived from Operating income, adjusted as follows:

- the amounts reported in the line items Restructuring costs and similar items, Fair value remeasurement of contingent consideration and Other gains and losses, and litigation are eliminated;
- amortization and impairment losses charged against intangible assets (other than software and other rights of an industrial or operational nature) are eliminated;
- the share of profits/losses from investments accounted for using the equity method is added;
- net income attributable to non-controlling interests is deducted;
- other acquisition-related effects (primarily the workdown of acquired inventories remeasured at fair value at the acquisition date, and the impact of acquisitions on investments accounted for using the equity method) are eliminated;
- restructuring costs relating to investments accounted for using the equity method are eliminated.

Sanofi accounting of Antibody License and Collaboration Agreement with Regeneron⁽¹⁾

		U.S.	Ex-U.S.
Net sales		Sanofi consolidates worldwide net sales	
Cost of sales		Sanofi consolidates worldwide cost of sales	
R&D expense⁽²⁾		Development costs funded upfront by Sanofi until first positive Phase 3; subsequent costs funded 80% Sanofi / 20% Regeneron <i>Regeneron 20% reimbursement recorded as a reduction of Sanofi R&D expense</i>	
SG&A expense		Sanofi expenses 100% of its commercial expenses	
Other operating income and expenses	1. Regeneron SG&A spend	Sanofi reimburses Regeneron for 100% of Regeneron's commercial expenditures <i>To date Regeneron has exercised its right to copromote in U.S. only; Sanofi leads all ex-U.S. activities</i>	
	2. Development balance	Regeneron reimburses 50% of cumulative development costs quarterly once collaboration profitable ⁽³⁾ ; <i>Reimbursement capped at 10% of Regeneron's share of profit per quarter on all Antibody products combined</i>	
	3. Collaboration profitable	Outflow: Sanofi expenses 50% of profit; paid to Regeneron	Outflow: Sanofi expenses 35% to 45% of profit; paid to Regeneron
	4. Collaboration in a loss	Inflow: Sanofi recognizes reimbursement of 50% loss from Regeneron	Inflow: Sanofi recognizes reimbursement of 45% loss from Regeneron
Amortization of intangibles (IFRS)	Sales Milestones		Regeneron entitled to receive up to \$250m in milestones starting from \$1bn ex-US sales

(1) Following expiry of the Antibody Discovery Agreement in December 2017, Praluent®, Dupixent®, Kevzara® and IL-33 / SAR440340 continue to be developed and commercialized with Regeneron under the Antibody License and Collaboration Agreement (LCA) signed in November 2007, Amended and Restated November 2009

and further amended May 2013 and July 2015 (2) For discovery and pre-clinical activities, Sanofi funded \$120m per year between 2007-2009; up to \$160m per year between 2010-2014; up to \$160m per year between 2015-2017, less \$75m reallocated to the immunology-oncology agreement spread over 2015-

2017; Discovery agreement expired December 31, 2017 (3) As of December 31, 2018, Sanofi has incurred \$6.8bn; \$3.4bn to be reimbursed, of which \$2.8bn remains outstanding

Sanofi Libtayo[®] accounting pursuant to immuno-oncology global collaboration^(1,2)

		U.S.	Ex-U.S.
Net sales		Consolidated by Regeneron	Consolidated by Sanofi
Cost of sales		Consolidated by Regeneron	Consolidated by Sanofi
R&D expenses		Sanofi reimburses 50% of development expenses incurred during quarter ⁽³⁾	
SG&A expenses		Sanofi expenses 100% of its commercial expenses	
Other operating income and expenses	1. SG&A reimbursement	Inflow: Regeneron reimburses 100% of Sanofi's U.S. commercial expenses	Outflow: No Regeneron commercial expenses ex-US
	2. Development balance	Regeneron reimburses 50% of pre-POC development costs ⁽⁴⁾ quarterly, once collaboration profitable ⁽⁵⁾	
	3. Collaboration profitable	Inflow: Sanofi recognizes 50% of collaboration's profits	Outflow: Sanofi expenses 50% of profits; to be paid to Regeneron
	4. Collaboration in a loss	Outflow: Sanofi expenses 50% of losses; to be paid to Regeneron	Inflow: Sanofi recognizes reimbursement of 50% of collaboration's losses
Amortization of intangibles (IFRS)	Sales milestones	Regeneron to receive \$375m milestone when sales of Libtayo [®] , including sales of future opt-ins under the IO LCA ⁽⁶⁾ sold for use in combination with Libtayo [®] , exceed \$2bn over any consecutive 12-month period	

(1) On July 1, 2015, Sanofi and Regeneron entered into an Immuno-Oncology (IO) Discovery and Development Agreement and an IO License and Collaboration Agreement (IO LCA). Sanofi made a \$640m upfront payment. The companies agreed to reallocate \$75m (spread over three years) to IO R&D from Sanofi's \$160m annual contribution to their existing antibody discovery agreement. The companies agreed to invest \$1bn from discovery through POC, to be funded 25% by Regeneron and 75% by Sanofi.

(2) Libtayo[®] collaboration unaffected by the Amended I-O Discovery and Development Agreement effective December 31, 2018. Revision provides for ongoing collaborative development of two clinical-stage bispecific antibody programs: (1) BCMAXCD3 and (2) MUC16xCD3 Agreement
 (3) In January 2018, Sanofi and Regeneron announced the Libtayo[®] budget through 2022 was increased from \$650m to \$1.64bn, funded equally by the two companies

(4) As of December 31, 2018, amounts to \$58m primarily for bi-specifics, LAG3 and CTLA-4 development programs
 (5) Capped at 10% of Regeneron profit share per quarter
 (6) Sanofi has opt-in rights with respect to each of the 2 bi-specifics antibodies (BCMAYCD3 or MUC16xCD3) covered by the Amended and Restated IO Discovery Agreement

Sanofi's ownership of Regeneron

Ownership of Regeneron

- As of December 31, 2018 Sanofi owned 21.7% of Regeneron pursuant to the investor agreement signed in 2007 and amended in January 2014

Accounting of Ownership

- Sanofi's share of Regeneron's profit / losses are presented on the Income Statement within Share of profit/(loss) from investments accounted for using the equity method

Ability to Sell Shares

- Pursuant to the January 2018 Letter Agreement, Sanofi may elect to sell Regeneron shares every quarter starting from 2018 to the end of 2020
- Maximum number of shares allowed to be sold under the 2018 Letter Agreement is 1.4 million, approximately 1% of the share capital
- In 2018, Sanofi sold shares with a carrying amount of €24 million

Synthorx acquisition⁽¹⁾ bringing significant value creation potential

Acquisition Price

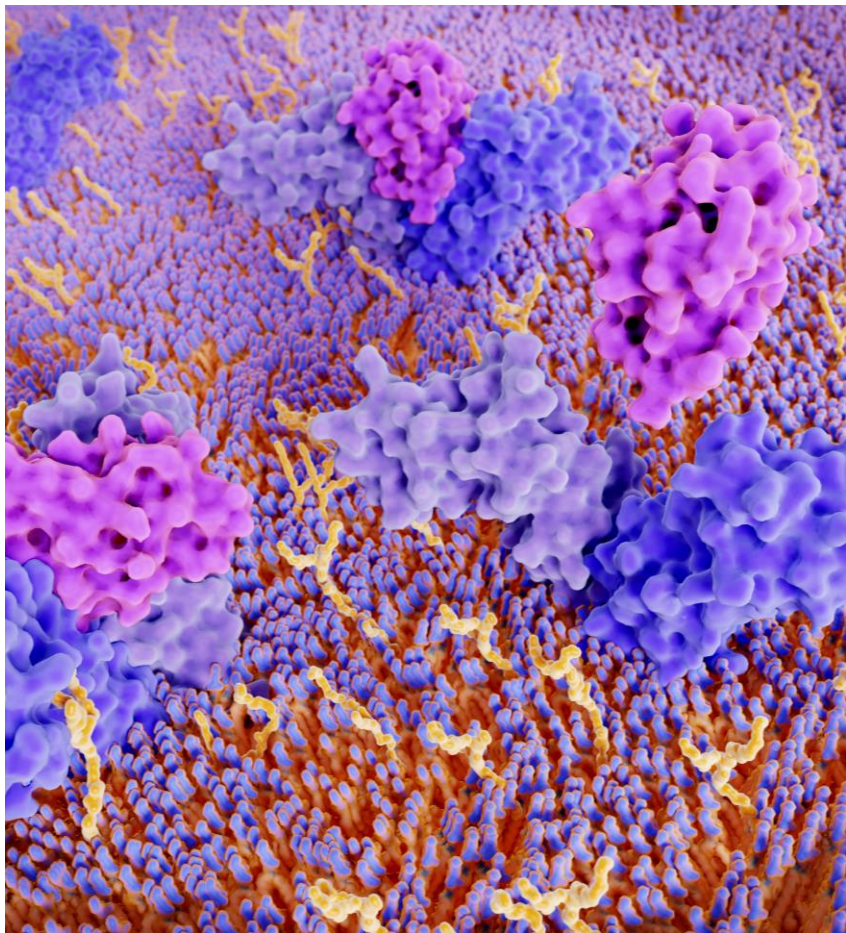
- Synthorx shareholders to receive \$68 per share in cash
- Values Synthorx at approximately \$2.5 billion on a fully diluted basis

Financials

- Expected to be slightly dilutive to Business EPS in 2020 and 2021⁽²⁾
- IRR expected to be well in excess of cost of capital over time

Timing

- Transaction unanimously approved by the Boards of both companies
- Expected to close by the end of Q1 2020⁽¹⁾



Capital Markets Day

R&D appendices

December 10, 2019



SANOFI

Dupixent[®](1): Development plan for adjacent indications

	Indication	Unmet need	Study start	# patients	Outcome measures	Expected read-out
Dermatology	Prurigo Nodularis	No approved therapy	Dec-19	150 + 150 ⁽²⁾	Improvement in worst itch NRS	Mid-2021
	Chronic Spontaneous Urticaria	Additional treatment options needed	Dec-19	80 + 104 ⁽²⁾	Improvement in weekly itch severity score (ISS7)	Mid-2021
	Bullous Pemphigoid	No approved therapy	Jan-20	80	Sustained remission	Mid-2022
Respiratory & Gastro-Intestinal	Eosinophilic Esophagitis	No systemic therapy Long-term safety issues of local/swallowed steroids	Dec-18	425	Peak esophageal intraepithelial eos count Improvement in dysphagia symptoms	Part A: mid-2020 Part B: H2 2022
	Allergic Bronchopulmonary Aspergillosis	No approved therapy	May-20	170	Exacerbation reduction	Mid-2023
	Chronic Obstructive Pulmonary Disease	No biologic therapy approved	May-19	924 + 924 ⁽²⁾	Exacerbation reduction FEV1 improvement	Mid-2023 (for 2 nd study)

IgE: immunoglobulin; NRS: numeric rating scale; ISS: itch severity scale; FEV1: forced expiratory volume in one second

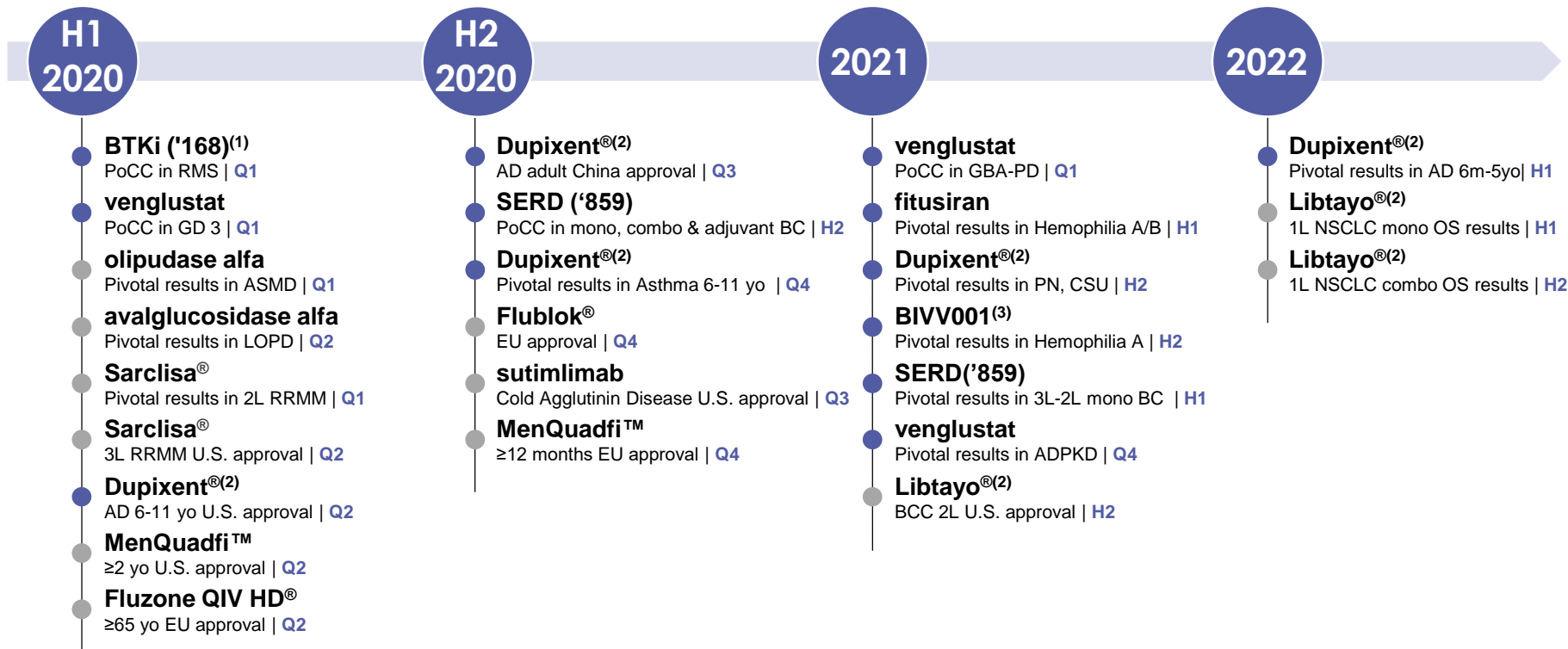
(1) In collaboration with Regeneron

(2) Two studies for Prurigo Nodularis, Chronic Spontaneous Urticaria and Chronic Obstructive Pulmonary Disease

None of these indications are approved for Dupixent by regulators

Expected upcoming milestones

- Priority assets
- Other



Note: assets under investigation, not approved by regulators

PoCC: proof of clinical & commercial concept; AD: atopic dermatitis; RRMM: relapsed refractory multiple myeloma; ASMD: acid sphingomyelinase deficiency; BCC: basal cell carcinoma; RMS: Relapsing Multiple Sclerosis; LOPD: late onset Pompe disease; BC: breast cancer; GD: Gaucher Disease; GBA-PD: Parkinsons Disease with an associated GBA mutation; CSU: Chronic Spontaneous Urticaria;

PN: Prurigo Nodularis; ADPKD: Autosomal Dominant Polycystic Kidney Disease; RSV:

Respiratory syncytial virus; NSCLC: non small cell lung cancer

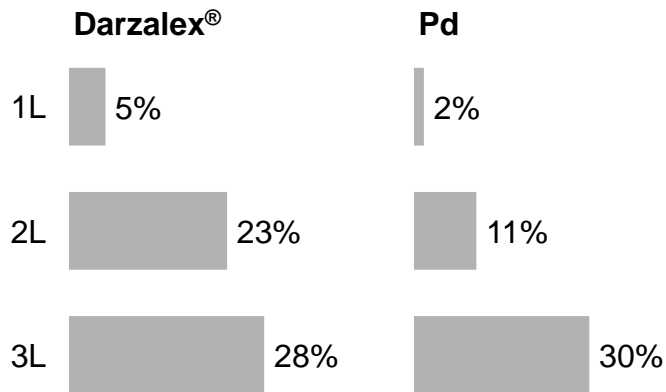
- (1) In collaboration with Principia
- (2) Developed in collaboration with Regeneron
- (3) Developed in collaboration with SOBI

Sarclisa®: Large opportunity for differentiated 2nd in class

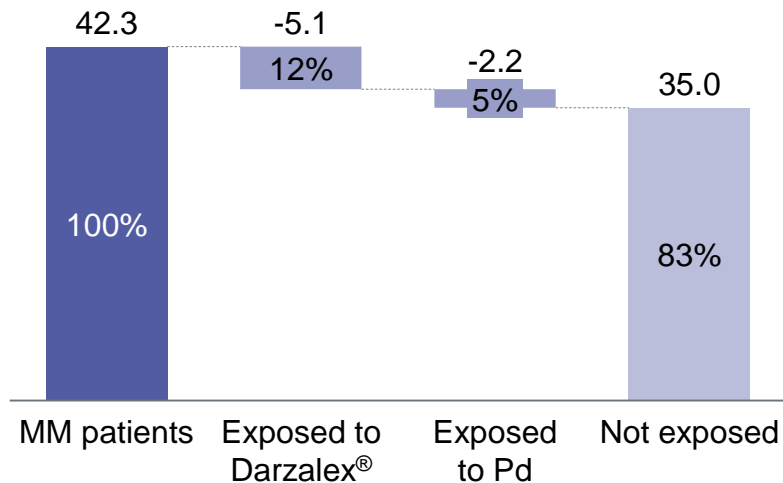
Limited penetration in early lines

<20% of U.S. patients in 1-2L exposed to Darzalex® or Pd

Penetration by line (U.S.)⁽¹⁾



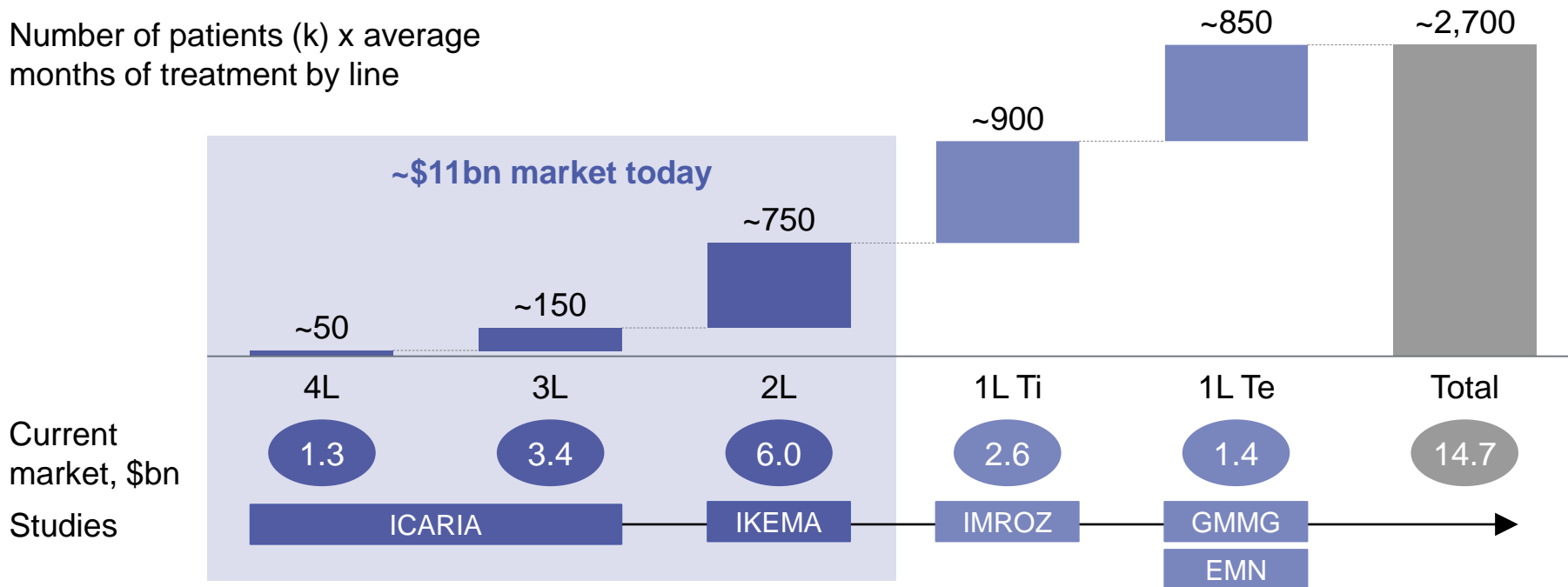
Patients in 1-2L, k (U.S.)⁽¹⁾



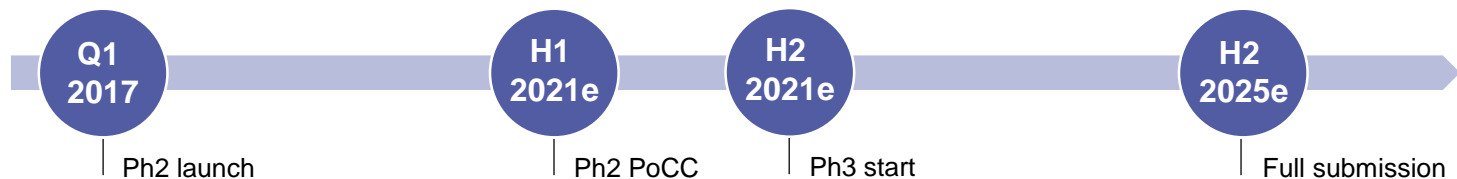
Sarclisa®: Expanding from late lines to early lines

U.S. & EU5⁽¹⁾

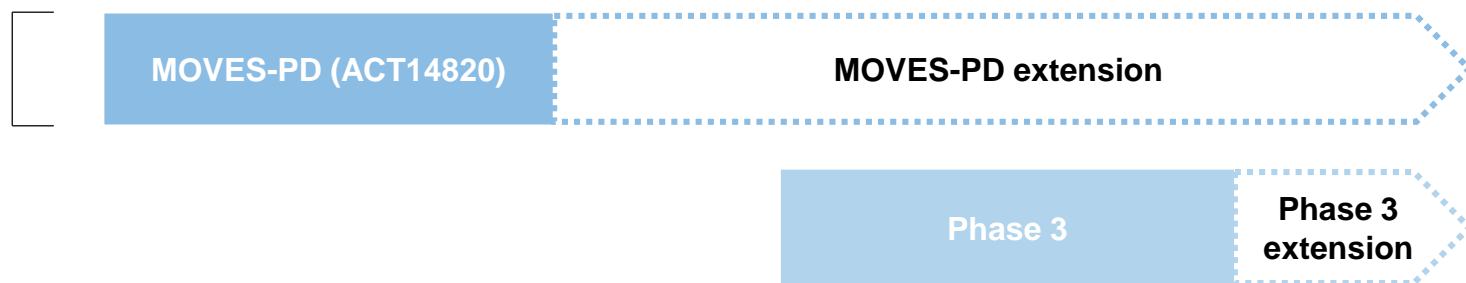
Number of patients (k) x average months of treatment by line



Venglustat: >240 patients enrolled in MOVES-PD



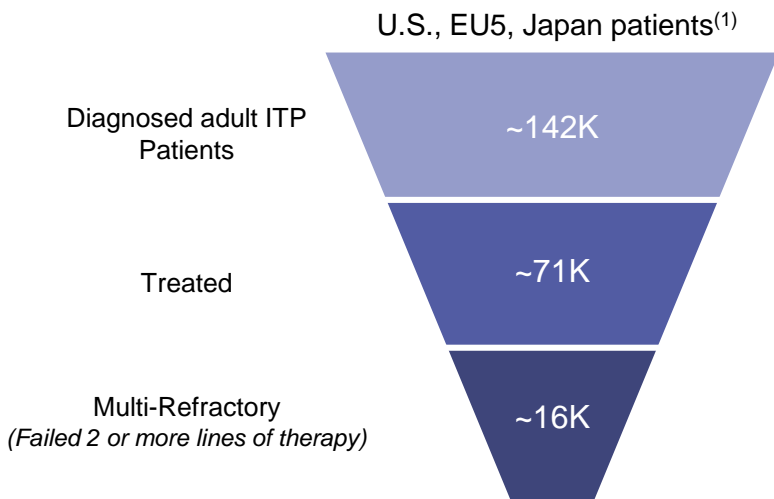
Phase 2: MOVES-PD
>240 patients with early-stage PD and GBA mutation (vs. placebo)



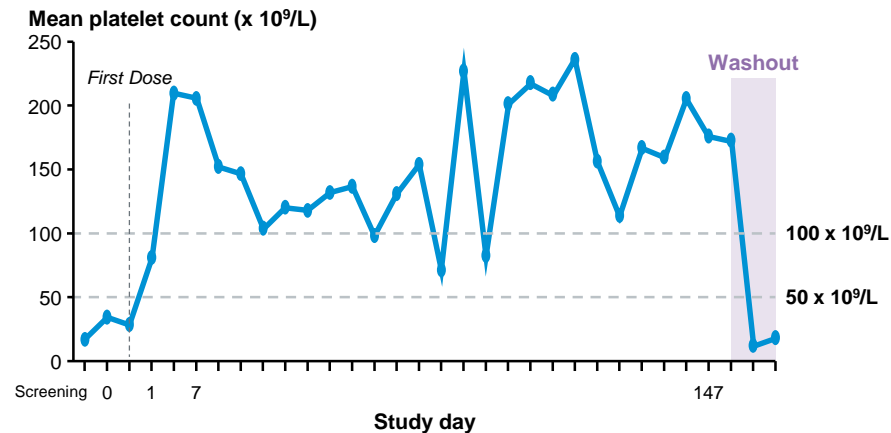
~20% of idiopathic PD patients anticipated to be included in phase 3 (FDA recommendation)

Sutimlimab: Potentially new SOC for refractory ITP patients

Significant unmet need for stable or increased platelet counts



Rapid and sustained platelet count increase in Phase 1⁽²⁾



Generally well-tolerated⁽²⁾ with Phase 3 expected to begin H1 2021

Olipudase alfa: Potential first and only therapy for ASMD

High unmet medical need

Ultra-rare progressive genetic disorder

- Results from a deficient activity of the enzyme acid sphingomyelinase, which is found in lysosomes and is required to breakdown lipids called sphingomyelin
- Also known as Niemann-Pick Disease Type B
- Prevalence: ~2,000 patients in U.S., Europe & Japan⁽¹⁾

No approved treatment

~3% of patients die each year due to respiratory or liver failure

FDA BTD, EMA PRIME & Japan SAKIGAKE designations granted

Pivotal top line results Jan 2020

Promising phase 1 results⁽²⁾



Acceptable safety profile, well tolerated

Phase 2/3 topline results (ASCEND) Jan 2020

- 36 patients, 52-week period
- Primary efficacy endpoints
 - % change in spleen volume
 - % change in Dlco

Regulatory submissions expected to begin Q4 2020

Avalglucosidase alfa: Investigational ERT for Pompe Disease

Progressive, often fatal myopathy

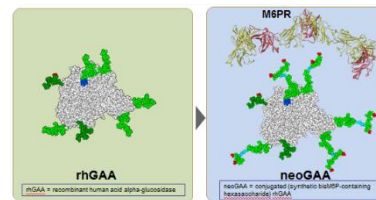
Pompe disease: rare, inherited and often fatal lysosomal storage and neuromuscular disorder

- Caused by mutations in the GAA gene, resulting in accumulation of glycogen
- Disease spectrum:
 - LOPD: progressive damage to skeletal & respiratory muscle, significant disability, premature death within muscle cells
 - IOPD: rapidly progressive myopathy, respiratory failure, often fatal in first year of life
 - Prevalence: ~10,000 patients in U.S., Europe & Japan⁽¹⁾

Respiratory failure is the most common cause of mortality in Pompe disease⁽²⁾

Promising pre-clinical⁽³⁾ & PoC data⁽⁴⁾

- rhGAA conjugated with bisM6p residues
- Engineered to increase cellular uptake⁽⁴⁾



Enrolled studies

- Ph. 3 LOPD, COMET study (n=100): randomized head to head against alglucosidase Alfa powered to test for superiority. read-out Q2 2020
- Ph. 1/2 IOPD, mini-COMET (n=22): read-out Q1 2020

Orphan drug designation in U.S. & EU

U.S. & EU submissions expected H2 2020

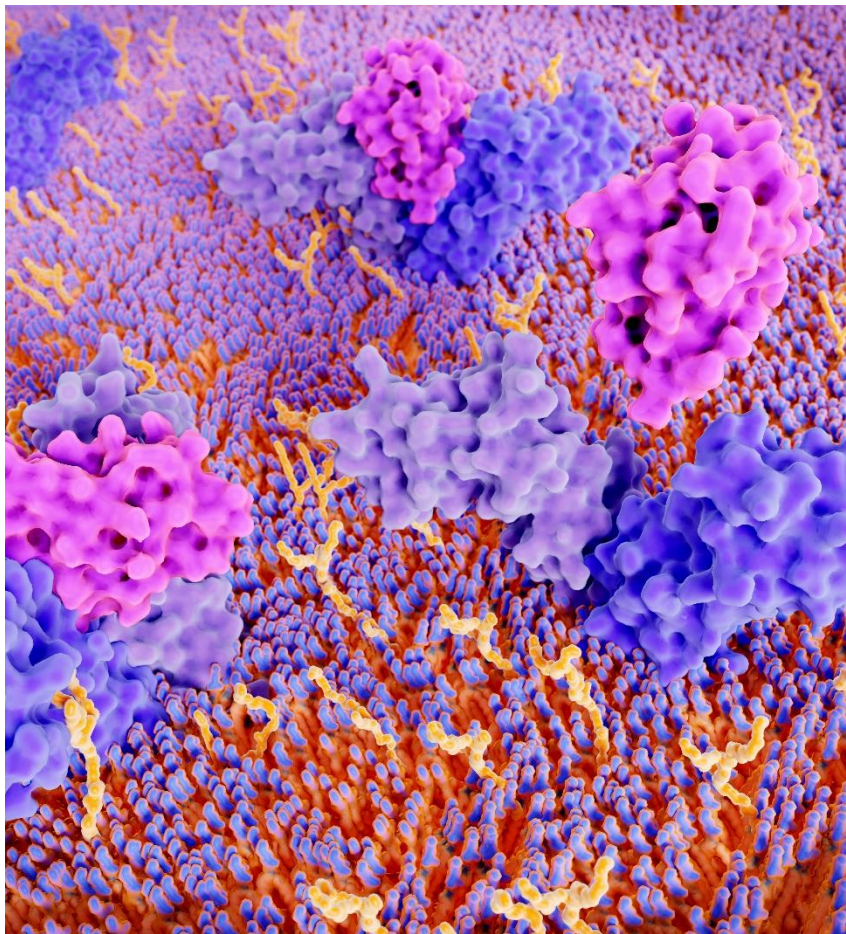
Avalglucosidase alfa is not approved by regulators. ERT: enzyme replacement therapy; LOPD: Late-Onset Pompe Disease; IOPD= Infantile -nset Pompe Disease; PoC = proof of concept; rhGAA: recombinant human acid α -glucosidase

(1) Sanofi estimate

(2) Winkel, L. P., Hagemans, M. L., et al. (2005). J Neurol and Mellies, U. and Lofaso, F. (2009). Respir Med

(3) Compared to Myozyme®, ~5x greater clearing of glycogen from heart, diaphragm, skeletal muscle based on pre-clinical data. Zhu Y. J Biol Chem. 2004, Zhu Y. Mol Ther. 2009 and Zhou Q. Bioconjug Chem. 2011, 2013

(4) Positive response on respiratory function observed in NEO1 phase 1/2 study. Pena L., et al. Neuromuscul Disord. 2019



Capital Markets Day

Vaccines

December 10, 2019



SANOFI

Our key growth drivers



Dupixent®

Maximize patient benefits with ambition to achieve >€10 billion peak sales across type 2 inflammatory diseases



Vaccines

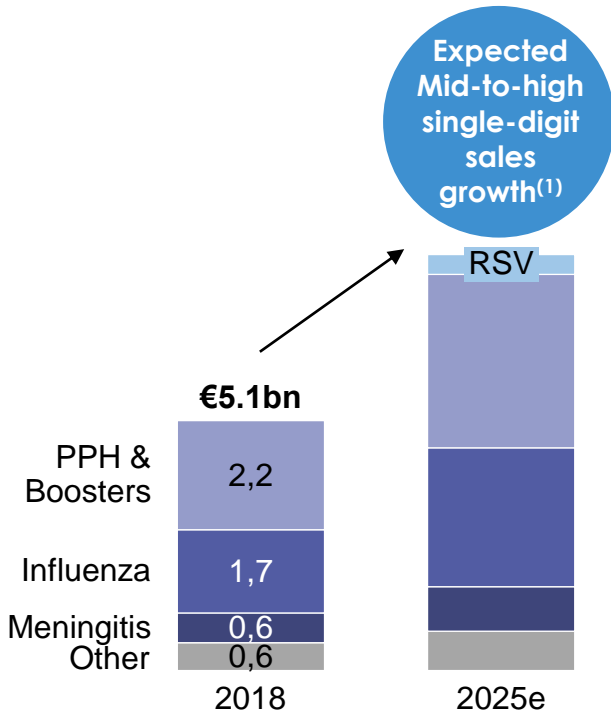
Expected mid-to-high single-digit growth⁽¹⁾, through differentiated products, market expansion, launches



Pipeline

Prioritize and accelerate portfolio of potentially transformative therapies

Vaccines: Strong growth driven by 3 core franchises & RSV



RSV⁽²⁾

- Launch first prophylaxis against RSV for all infants



PPH & Boosters

- Global Hexaxim[®] expansion
- Vaxelis[®] U.S. introduction
- Boosters acceleration



Influenza

- Fluzone[®] HD QIV launch
- Flublok[®] expansion
- Increasing VCR



Meningitis

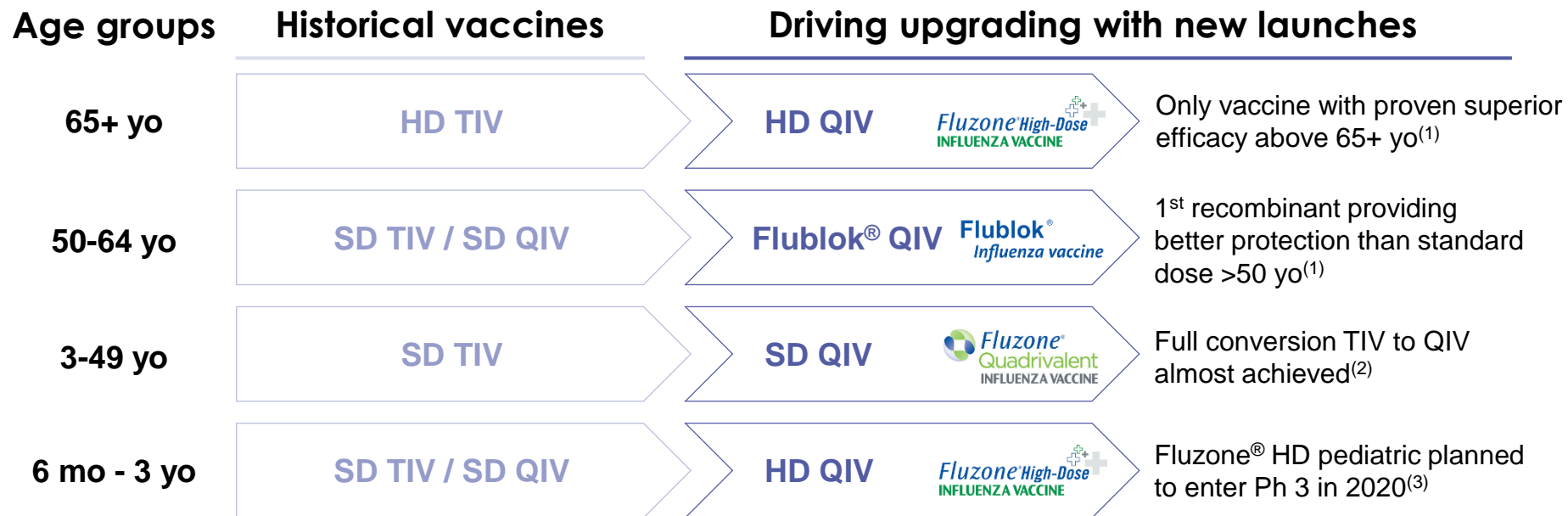
- Men ACWY expansion
- MenQuadfi[™] launch in U.S. & Europe

PPH / Boosters: Worldwide pediatric combinations leader

Large potential in both primary & booster vaccination



Influenza: Growth driven by differentiated vaccines



Ongoing geographic expansion of differentiated flu vaccines

Fluzone® High-Dose: Superior efficacy in landmark trial

Pivotal efficacy trial results, age 65+

Fluzone® Vaccine (standard dose) Subjects	Fluzone® High-Dose Vaccine Subjects	Superior Relative Efficacy: %95 CI	
		Primary Endpoint ⁽¹⁾ <i>associated with protocol- defined influenza –like illness</i>	Secondary Endpoint ⁽²⁾ <i>associated with modified CDC- defined influenza –like illness</i>
15,993	15,990	24.2% (9.7;36.5)	51.1% (16.8;72.0)

- Large 2-season efficacy trial of 32,000 patients; published in New England Journal of Medicine
- Fluzone® High Dose is used in U.S. & Canada
- Nearly 2/3 of immunized seniors in U.S. receive Fluzone High-Dose
- Launches in Europe & Asia: 2021e+ pending regulatory review

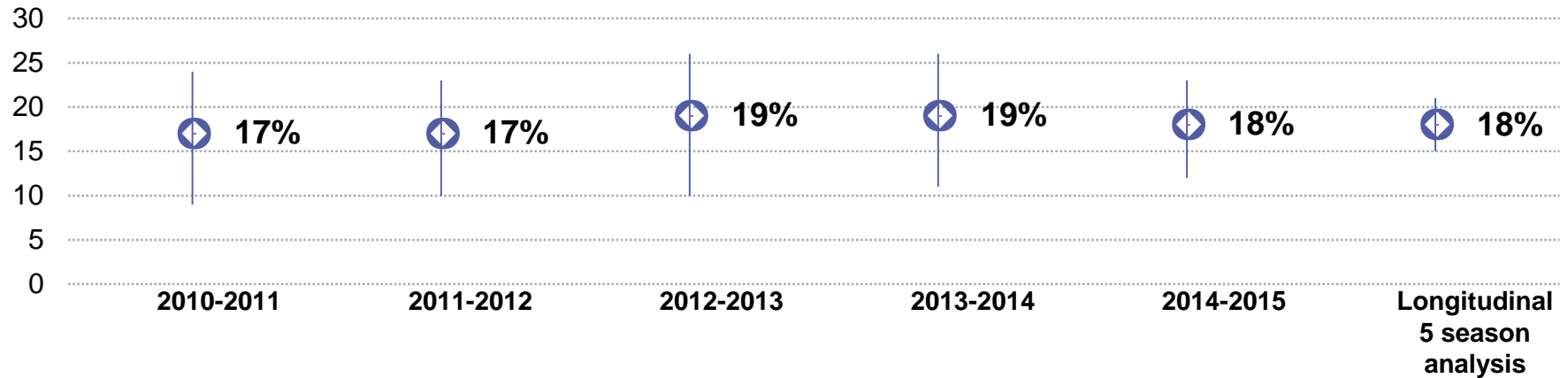
References: DiazGranados CA, et al. N Engl J Med. 2014;371(7):635-645. 2. Fluzone High-Dose vaccine [Prescribing Information]. Swiftwater, PA: Sanofi Pasteur Inc.; 2016.

(1) Primary endpoint: Occurrence, at least 14 days post-vaccination, of lab-confirmed influenza caused by any viral type or subtype (regardless of similarity to vaccine components)

(2) Secondary endpoint: Occurrence of culture-confirmed influenza caused by viral types/subtypes antigenically similar to those contained in the vaccine in association with a modified CDC-defined ILI

Fluzone® High-Dose reduces cardio-respiratory hospitalizations

Relative vaccine effectiveness⁽¹⁾ of Fluzone® High-Dose vs standard dose vaccine: Cardio-respiratory hospitalizations



- 3.6M subjects total; 357K hospitalized due to cardio-respiratory event over 5 seasons
- Consistent reduction of cardio-respiratory hospitalization, a critical medical & health-economic issue for seniors

Flublok[®]: 1st recombinant flu vaccine showing better efficacy in adults 50+

Pivotal efficacy trial results, age 50+

Fluarix [®] Vaccine (standard dose) Subjects	Flublok [®] Vaccine Subjects	Relative Efficacy: %95 CI	
		Primary Endpoint <i>PCR confirmed + protocol- defined influenza-like illness</i>	Secondary Endpoint <i>Culture confirmed + protocol- defined influenza-like illness</i>
4,344	4,328	30% (10;47)	43% (21;59)

- 1 season efficacy trial of 9,000 patients; published in New England Journal of Medicine
- Comparable safety to standard dose vaccines
- First recombinant influenza vaccine
- Baculovirus expression vector system
- Launches in Europe & Asia: 2021e+ pending regulatory review

Innovative prospective real world data generation

Sanofi Pasteur is pursuing leading-edge, innovative real world data to reinforce value of our differentiated flu vaccines & support clinical decision making

Fluzone[®] High-Dose
INFLUENZA VACCINE

Flublok[®]
Influenza vaccine

Randomized trial in
Finnish National Registry

68,000 subjects

Reduction of cardio-respiratory
hospitalizations



Comparative clinical study:
Kaiser Permanente

1.6 million subjects

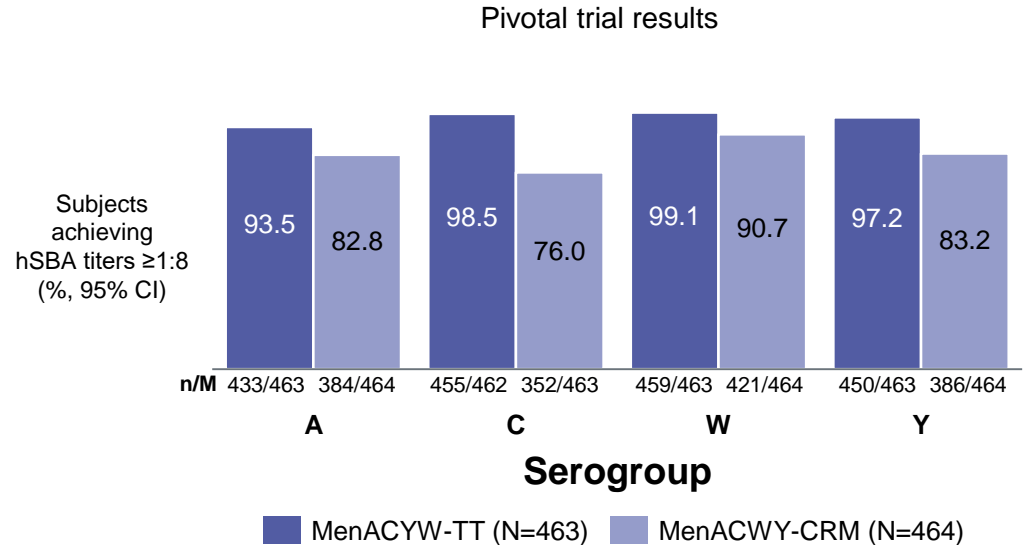
Relative vaccine effectiveness

Meningitis⁽¹⁾: Strong MenQuadfi™ results

MenQuadfi™: Better immunogenicity profile⁽²⁾

- Pivotal trials completed for first submissions in the U.S., EU and international regions
- All primary objectives met
 - Non-inferiority to comparator vaccines
 - Co-administration data with routine vaccines
- Good safety profile
- FDA action date April 2020⁽³⁾

MET50: Adolescents achieving seroprotection hSBA titers $\geq 1:8$ at D30⁽⁴⁾



Menquadfi™ is not approved by regulators

- (1) Serogroups ACWY
- (2) Compared to Menactra and Menveo
- (3) 2 years+
- (4) D30, day 30; hSBA, serum bactericidal assay using human complement; M, number of subjects with valid serology results; n, number of subjects achieving hSBA titers $\geq 1:8$; N,

total number of subjects in group; per-protocol analysis set for assessing response to MenACWY and Tdap responses. Data (MenACYW-TT and MenACWY-CRM). EU Clinical Trials Register. 2016-001963-35 (MET50) results summary. January 2019. Available at: <https://www.clinicaltrialsregister.eu/ctr-search/trial/2016-001963-35/results> [accessed April 2019]. Poster presented at the 37th Annual meeting of the European Society for Paediatric Infectious Diseases, May 6-11 2019, Ljubljana. Slovenia

Meningitis⁽¹⁾: Expanding in new age groups & geographies

Current

Menactra[®] (9 months – 55 years in U.S. and international)



Future

MenQuadfi[™] (6 weeks+ in U.S., EU and international)

- Broader age indications from infants⁽²⁾ to elderly
- Geographic expansion, both in mature & emerging markets
- Unique fully liquid formulation vs. competition
- Co-administration possible with multiple routine pediatric vaccines
- Potential Quadrivalent backbone for Pentavalent Meningitis vaccine

Accelerating innovation in Vaccines



Novel Vaccines

- RSV mAbs & vaccines
- PCV
- MenB & MenPenta
- 15 new targets, including Next-Gen Flu



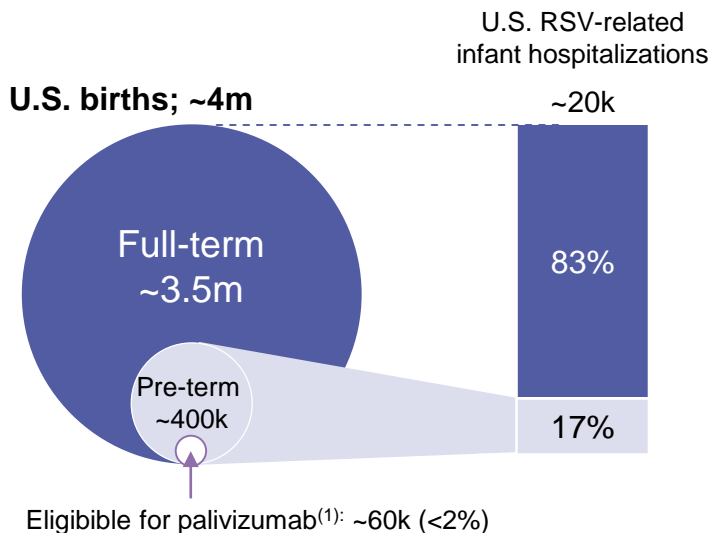
Investing in New technology platforms

- mRNA technology partnership
- Adjuvants portfolio
- Recombinant & cell-culture flu platform

Nirsevimab: Goal to be cost-effective RSV prophylaxis for all infants

98% of infants currently not eligible

High disease burden



- High medical care costs from RSV-related LRTI (\$4.2bn⁽²⁾)
- Congested ER / ICU during RSV seasons
- Risk of long-term sequelae

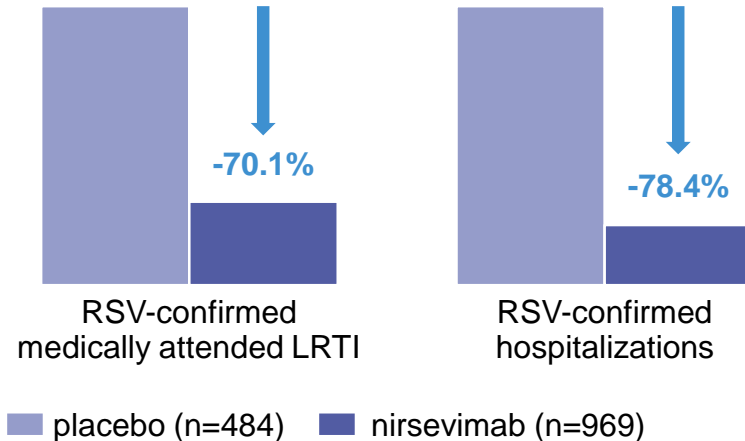
Nirsevimab has potential to cover all infants through single injection

Nirsevimab⁽¹⁾: Aiming for cost-effective RSV prophylaxis

Strong risk reduction in healthy pre-term infants 29-35 weeks

Flexible dosing to cover all infants during their first RSV season

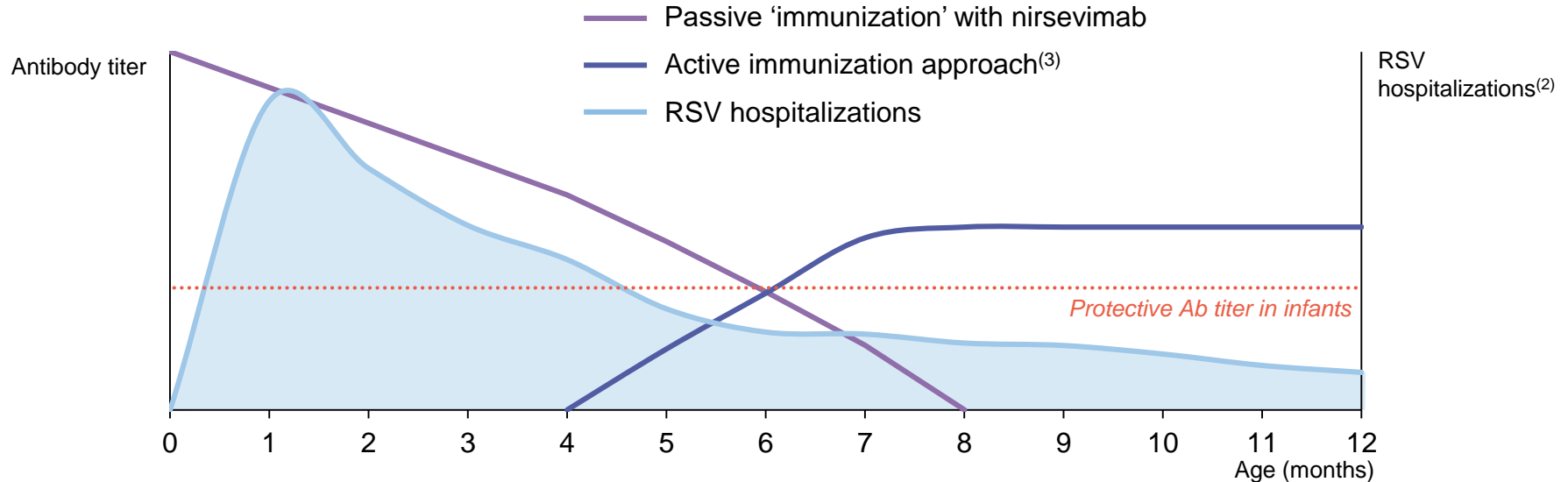
Phase 2b data (n=1,453)⁽²⁾



- Single injection
- Administration independent of gestational age
 - At birth for born-in-season infants
 - Just prior to RSV season for born out-of-season infants to ensure protective Ab titer through the season

FDA breakthrough therapy designation and EMA Priority Medicine

Nirsevimab⁽¹⁾: Addressing shortfall of active immunization



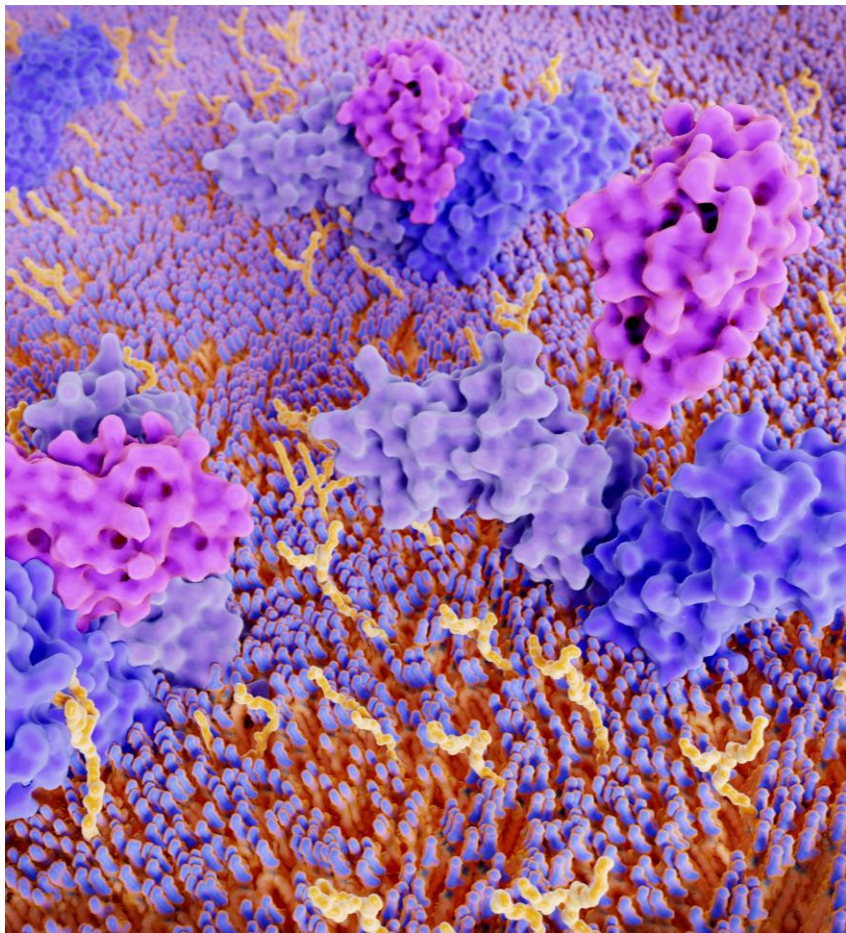
Passive 'immunization' is the only approach to provide sufficient Ab titer when risk is highest

Nirsevimab⁽¹⁾: Submission expected by 2023

	MELODY	MEDLEY
Phase	Phase 3	Phase 2/3
Endpoint	Safety and efficacy	Safety
Control	Placebo	palivizumab
Patients	>35wk healthy infants (n=3,000)	High-risk infants (n=1,500)
Study end ⁽²⁾	2023e	2021e



**Target
submission:
2023e**



Capital Markets Day

General Medicines and CHC

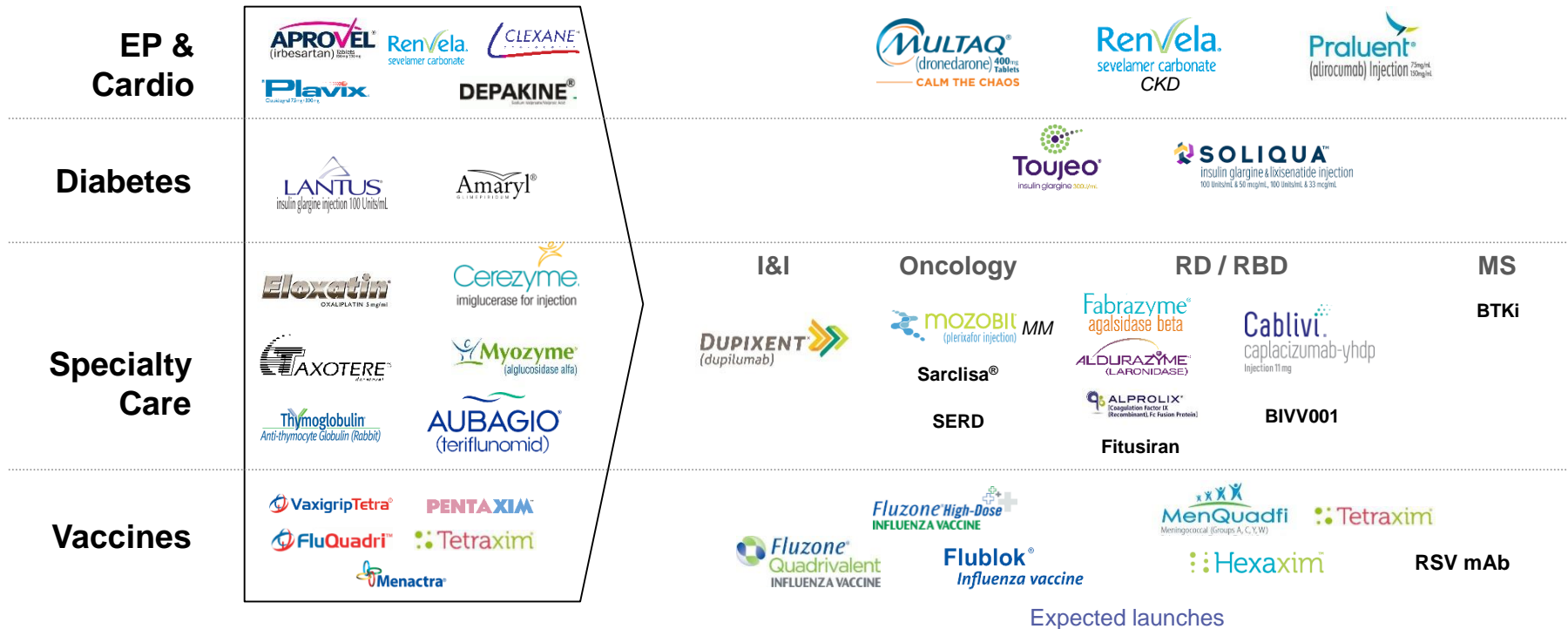
December 10, 2019



China: Building our Specialty franchises

Our portfolio today

25+ launches by 2025 & beyond



Game-changing first-in-category switch opportunities



- Rx-to-OTC switches are an engine of growth in large U.S. market
- Sanofi has proven global switch expertise (Allegra[®], Nasacort[®], Xyzal[®])
- Evolving regulatory environment favorable, discussions on track
- Innovative digital techniques employed to secure switch success

Disruptive
growth
tapping into
new CHC
categories

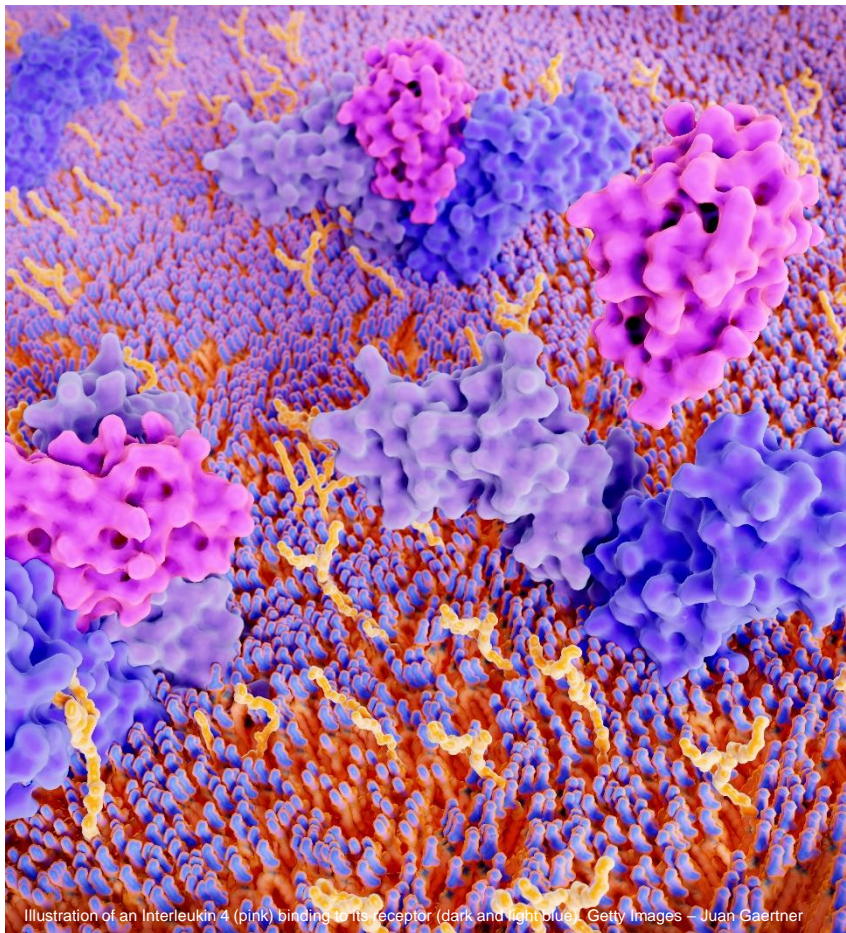


Illustration of an Interleukin 4 (pink) binding to its receptor (dark and light blue). Getty Images – Juan Gaertner

Capital Markets Day

Play to Win

December 10, 2019



SANOFI

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