R&D Investor Event

Lead with innovation

June 23, 2020

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Forward looking statements

This presentation contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. These statements include projections and estimates and their underlying assumptions, statements regarding plans, objectives, intentions and expectations with respect to future financial results, events, operations, services, product development and potential, and statements regarding future performance. Forward-looking statements are generally identified by the words “expects”, “anticipates”, “believes”, “intends”, “estimates”, “plans” and similar expressions. Although Sanofi’s management believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of Sanofi, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include among other things, the uncertainties inherent in research and development, future clinical data and analysis, including post marketing, decisions by regulatory authorities, such as the FDA or the EMA, regarding whether and when to approve any drug, device or biological application that may be filed for any such product candidates as well as their decisions regarding labelling and other matters that could affect the availability or commercial potential of such product candidates, the fact that product candidates if approved may not be commercially successful, the future approval and commercial success of therapeutic alternatives, Sanofi’s ability to benefit from external growth opportunities, to complete related transactions and/or obtain regulatory clearances, risks associated with intellectual property and any related pending or future litigation and the ultimate outcome of such litigation, trends in exchange rates and prevailing interest rates, volatile economic and market conditions, cost containment initiatives and subsequent changes thereto, and the impact that COVID-19 will have on us, our customers, suppliers, vendors, and other business partners, and the financial condition of any one of them, as well as on our employees and on the global economy as a whole. Any material effect of COVID-19 on any of the foregoing could also adversely impact us. This situation is changing rapidly and additional impacts may arise of which we are not currently aware and may exacerbate other previously identified risks. The risks and uncertainties also include the uncertainties discussed or identified in the public filings with the SEC and the AMF made by Sanofi, including those listed under “Risk Factors” and “Cautionary Statement Regarding Forward-Looking Statements” in Sanofi’s annual report on Form 20-F for the year ended December 31, 2019. Other than as required by applicable law, Sanofi does not undertake any obligation to update or revise any forward-looking information or statements.

R&D Investor Event | Agenda

Introduction	**Paul Hudson**	Chief Executive Officer	
	John Reed	Global Head of Research & Development	
Platforms Synthorx	**Yong Jun Liu**	Global Head of Research	
	Marcos Milla	Chief Scientific Officer, Synthorx	
Pathways Venglustat	**John Reed**	Global Head of Research & Development	
	Karin Knobe	TA Head, Rare Diseases and Rare Blood Disorders Development	
	Pablo Sardi	TA Head, Rare and Neurologic Diseases Research	
Q&A session 1			**20'**
Patients Fitusiran & BIVV001	**Vanessa Wolfeler**	Global Franchise Head, Rare Blood Disorders	
	Dietmar Berger	Global Head of Development, Chief Medical Officer	
Capabilities COVID-19	**Dietmar Berger**	Global Head of Development, Chief Medical Officer	
	John Shiver	Global Head of Research & Development, Sanofi Pasteur	
Conclusion	**John Reed**	Global Head of Research & Development	
Q&A session 2			**40'**

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TA: Therapeutic area

Introduction

Paul Hudson

Chief Executive Officer

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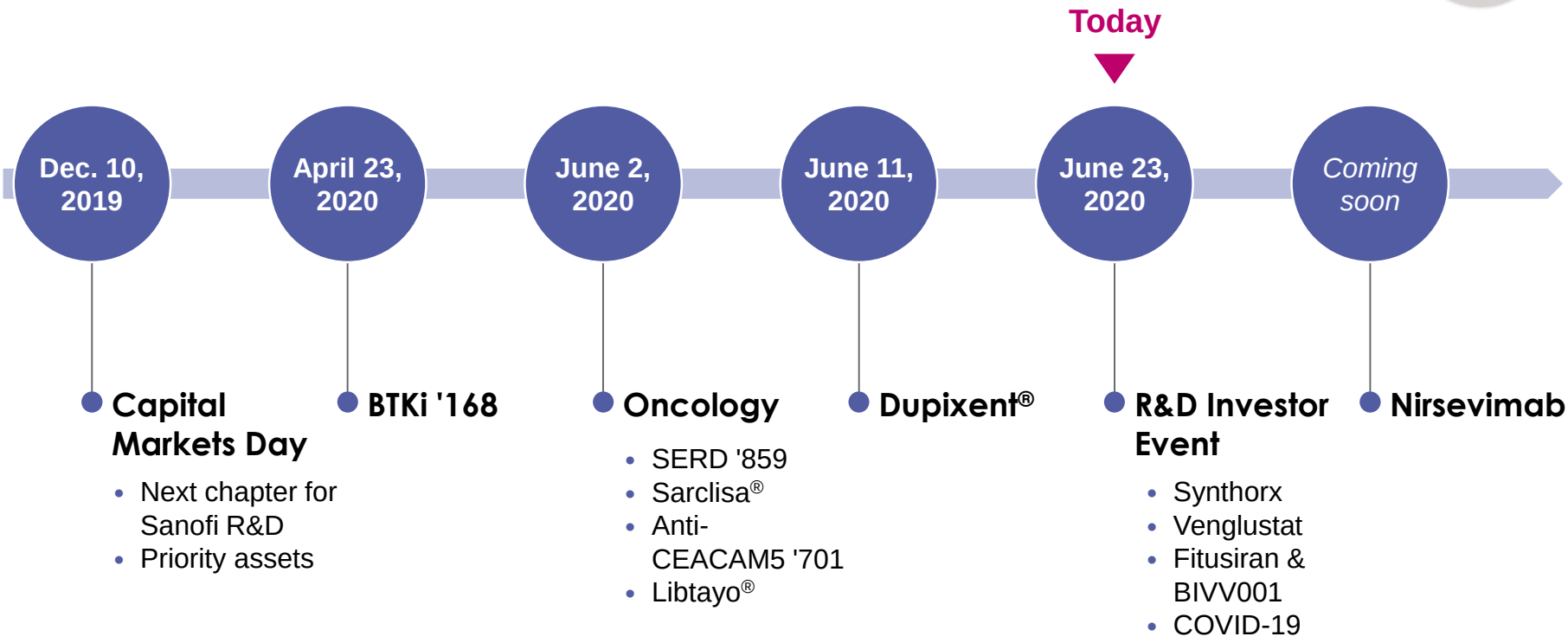
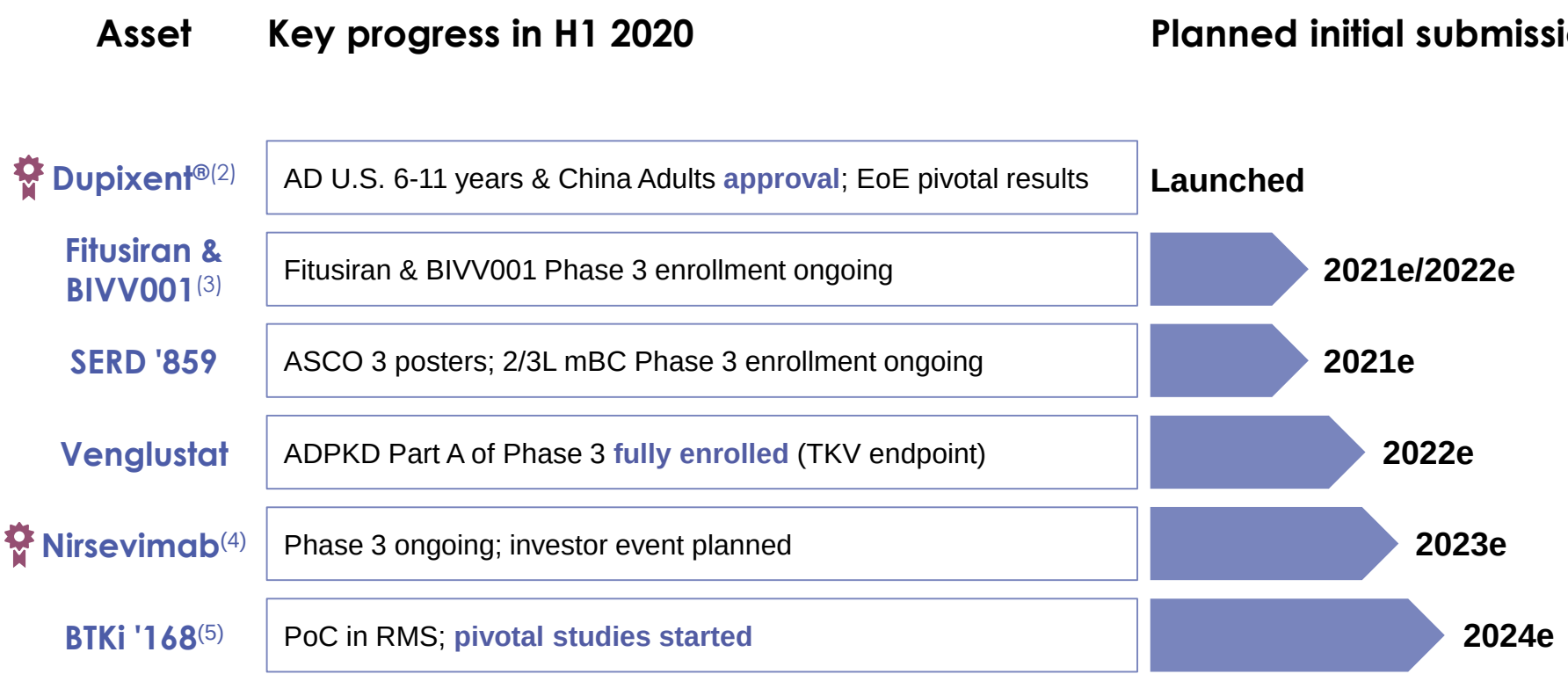
Our approach to R&D Days



Continuing to deliver on our priority assets…



Breakthrough designation

PoC: Proof of concept, clinical and commercial evidence to initiate pivotal study; AD: Atopic dermatitis; EoE: Eosinophilic esophagitis; mBC: metastatic Breast cancer; ADPKD: Autosomal dominant polycystic kidney disease; TKV: Total kidney volume; RMS: Relapsing multiple sclerosis

(1) First submission for assets with multiple potential indications (2) Breakthrough designation for AD 6-11 years. Dupixent® in collaboration with Regeneron (3) In collaboration with Sobi (4) In collaboration with AstraZeneca (5) In collaboration with Principia

… and our other late-stage molecules

Asset	Key progress in H1 2020	Planned initial submission[1]
Sarclisa®	2L RRMM positive pivotal results; 3L RRMM **approval U.S. & EU**[3]	**Launched**
Libtayo®[2]	1L NSCLC and 2L BCC positive pivotal results	**Launched**
MenQuadfi™	**U.S. approval** for ≥2 year-old age group	**Approved**
Avalgluco-sidase alfa	LOPD positive pivotal trial results	**2020e**
Sutimlimab	Cold Agglutinin Disease Phase 3 **priority review**	**2020e**
Olipudase alfa	ASMD positive pivotal trial results	**2021e**
Anti-CEACAM5 '701	Phase 3 lung and Phase 2 in additional settings initiated	**2022e**

Breakthrough designation

RRMM: Relapsed refractory multiple myeloma; NSCLC: Non-small-cell lung carcinoma; BCC: Basal cell carcinoma; LOPD: Late-onset Pompe disease; ASMD: Acid sphingomyelinase deficiency. (1) First submission for products with multiple potential indications (2) Breakthrough designation for Cutaneous squamous cell carcinoma. Libtayo® in collaboration with Regeneron (3) Sarclisa® approved for patients with≥2 prior therapies, including lenalidomide and a proteasome inhibitor. Approved in the U.S., EU, Canada, Australia and Switzerland, indication in certain non-U.S. countries also includes disease progression on last therapy

Sanofi's approach to R&D

Platforms

Expanded tools for drug discovery

Pathways

Deep understanding of disease pathways

Patients

Relentless patient focus

Expanding capabilities

Introduction

John Reed

Global Head of Research & Development

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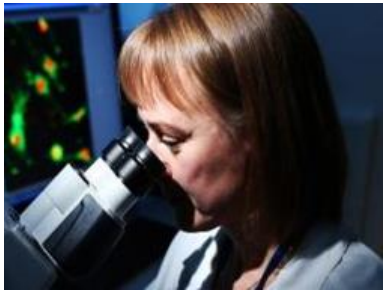
Sanofi R&D is transforming



Focus on priorities

- Diabetes & Cardiovascular exit
- Focus on priority assets, within 5 therapeutic areas(1)

Lead with innovation

- Building industry leading platforms to deliver practice-changing medicines

Accelerate efficiency

- Achieving top-tier performance
- Digital R&D operations

Reinvent how we work

- Faster and more rigorous decision making
- Urgency of execution

(1) Immunology and Inflammation, Oncology, Neurosciences, Rare Diseases and Vaccines

Maximizing the potential of our priority assets

Dupixent®[1]	Fitusiran & BIVV001[2]	SERD '859	Venglustat	Nirsevimab[3]	BTKi '168[4]
• Leveraging Type 2 biology to maximize patient benefit across multiple indications • Fast roll-out of several new indications supported by Real World Evidence	• Comprehensive program across 4 hemophilia segments for fitusiran[5] • Selected endpoints for BIVV001 to capture impact on daily activities	• Aiming to become backbone of choice across lines of therapies • Accelerating pivotal studies in early BC supported by cooperative groups	• Leveraging conserved disease biology to expand to broader populations • Accelerated development in GBA-PD and ADPKD informed by genetics	• Paradigm shift aiming for universal passive immunization for all infants • Supported by large RSV development program	• Covering the full MS spectrum supported by centrally acting mechanism • Smart investment allowed fastest possible Phase 3 start

BC: Breast cancer; PD: Parkinson disease; ADPKD: Autosomal dominant polycystic kidney disease; RSV: Respiratory syncytial virus; MS: Multiple sclerosis
(1) In collaboration with Regeneron (2) In collaboration with Sobi (3) In collaboration with AstraZeneca (4) In collaboration with Principia (5) Hemophilia A, B, with and without inhibitors

Progressing on our long-term promises

Potential first- or best-in-class molecules within development pipeline (objective: >80%)

Biologics in research pipeline (objective: ~70%)

Internal(1) assets with no revenue sharing (objective: ~70%)

(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 share of the economics

Concrete illustrations of Sanofi's approach to R&D

Platforms **Expanded tools for drug discovery**	**Synthorx** Boosting the impact of cancer immunotherapies by expanding the genetic alphabet
Pathways **Deep understanding of disease pathways**	**Venglustat** Leveraging our knowledge of disease pathways to invent new medicines applicable to multiple disorders
Patients **Relentless patient focus**	**Fitusiran & BIVV001(1)** Turning cutting-edge protein engineering and new modalities into innovative patient offerings
Capabilities **Leveraging expanding capabilities**	**COVID-19** Applying our scale and broad platforms to battle a global health crisis

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(1) In collaboration with Sobi

Platforms
Synthorx

Yong-Jun Liu

Global Head of Research

Marcos Milla

Chief Scientific Officer, Synthorx

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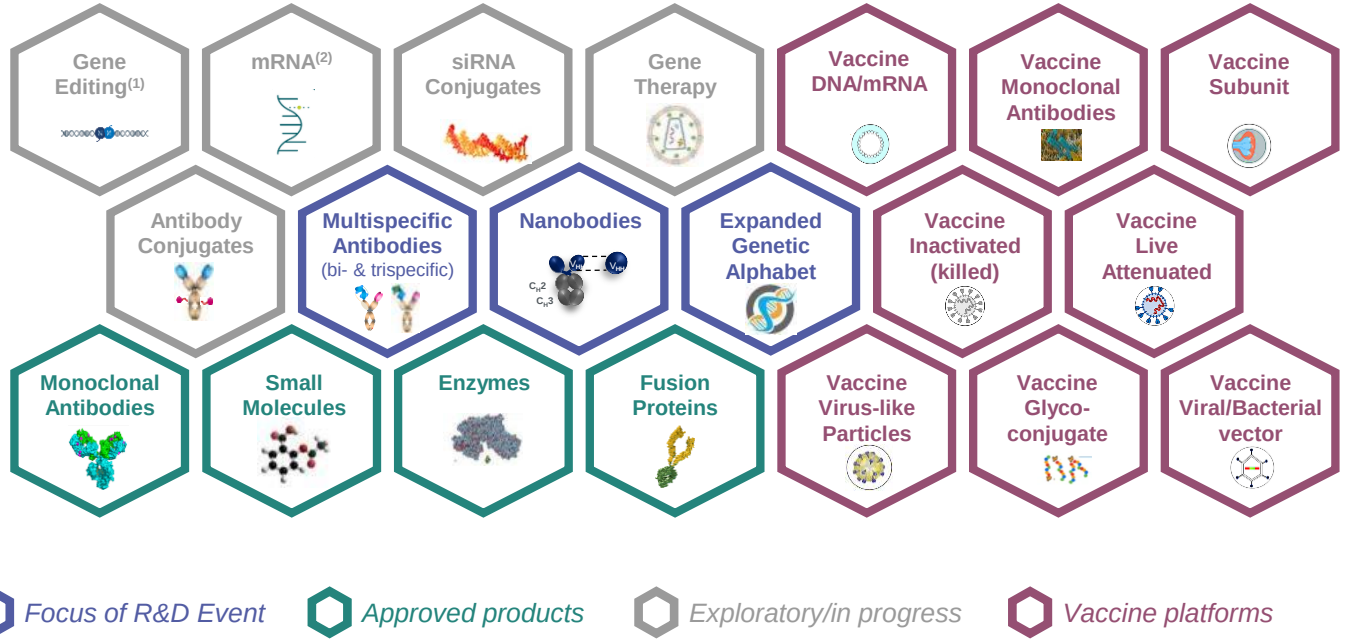
Sanofi platforms to expand the druggable universe

85% of the proteome remains undruggable

Multiple platforms required to address difficult targets

Opportunity to create new (“synthetic”) biology for tackling disease



(1) In collaboration with Sangamo (2) In collaboration with BioNtech

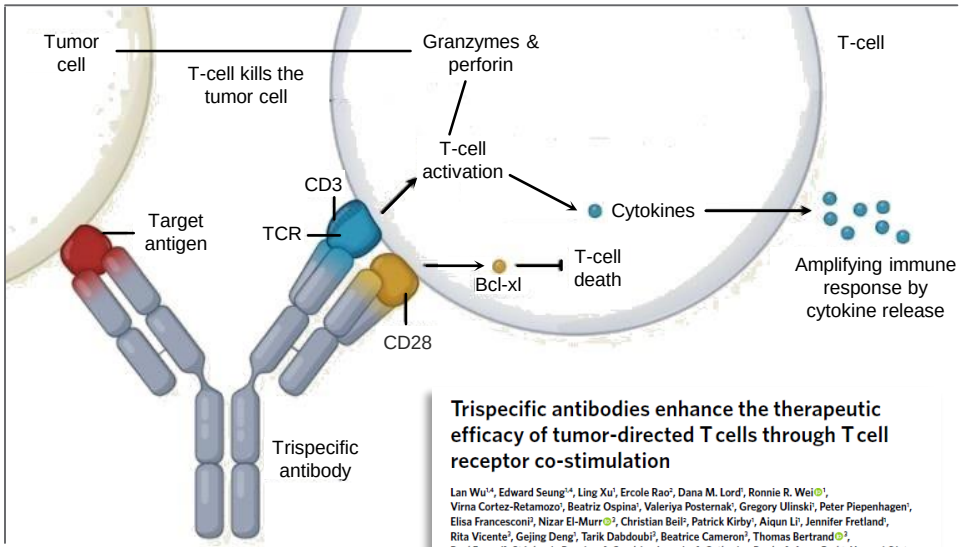
Tri-specific T-cell activation: A novel platform for cancer immunotherapy

Optimized T-cell activation by stimulating T-cells through both TCR (CD3) and co-stimulatory receptor (CD28):

- Conventional CD3-based T-cell engagers provide only "signal 1": TCR
- In the absence of "signal 2" from co-stimulatory receptors, this promotes activation-induced T-cell death, limiting anti-tumor response
- CD28 provides "signal 2" to promote survival of activated T-cells and generation of "T-cell memory"

Improved targeting: Tri-specific antibody also has the potential to bind 2 targets on tumor cells: the established target CD38 as well as CD28, which is expressed on myeloma and other hematologic cancers

Mechanism of action(1)



Trispecific antibodies enhance the therapeutic efficacy of tumor-directed T cells through T cell receptor co-stimulation

Lan Wu[1,4], Edward Seung[1,4], Ling Xu[1], Ercole Rao[2], Dana M. Lord[1], Ronnie R. Wei[1], Virna Cortez-Retamozo[1], Beatriz Ospina[1], Valeriya Posternak[1], Gregory Ulinski[1], Peter Piepenhagen[1], Elisa Francesconi[2], Nizar El-Murr[2], Christian Beil[2], Patrick Kirby[1], Aiqun Li[1], Jennifer Fretland[1], Rita Vicente[3], Gejing Deng[1], Tarik Dabdoubi[2], Beatrice Cameron[3], Thomas Bertrand[2], Paul Ferrari[2], Stéphanie Pouzieux[2], Cendrine Lemoine[2], Catherine Prades[3], Anna Park[1], Huawei Qiu[1], Zhili Song[1], Bailin Zhang[1], Fangxian Sun[1], Marielle Chiron[2], Srinivas Rao[1], Katarina Radošević[2], Zhi-yong Yang[1*] and Gary J. Nabel[1*]

Despite the significant therapeutic advances provided by immune-checkpoint blockade and chimeric antigen receptor T cell treatments, many malignancies remain unresponsive to immunotherapy. Bispecific antibodies targeting tumor antigens and activating T cell receptor signaling have shown some clinical efficacy; however, providing co-stimulatory signals may improve T cell responses against tumors. Here, we developed a trispecific antibody that interacts with CD38, CD3 and CD28 to enhance both T cell activation and tumor targeting. The engagement of both CD3 and CD28 affords efficient T cell stimulation, whereas the anti-CD38 domain directs T cells to myeloma cells, as well as to certain lymphomas and leukemias. In vivo administration of this antibody suppressed myeloma growth in a humanized mouse model and also stimulated memory/effector T cell proliferation and reduced regulatory T cells in non-human primates at well-tolerated doses. Collectively, trispecific antibodies represent a promising platform for cancer immunotherapy.

TCR: T-cell receptor

(1) Adapted from Garfall *et al*, Trispecific antibodies offer a third way forward for anticancer immunotherapy, Nature 575, 2019 ©2019, Springer Nature (under permission requested). Article screenshot from Wu *et al*, Trispecific antibodies enhance the therapeutic efficacy of tumor-directed T cells through T cell receptor co-stimulation, Nat Cancer 2020 ©2020, Springer Nature (under permission requested)

SAR442257: First-in-class next-gen T-cell immunotherapy, now in the clinic

Trispecific CD38 antibody

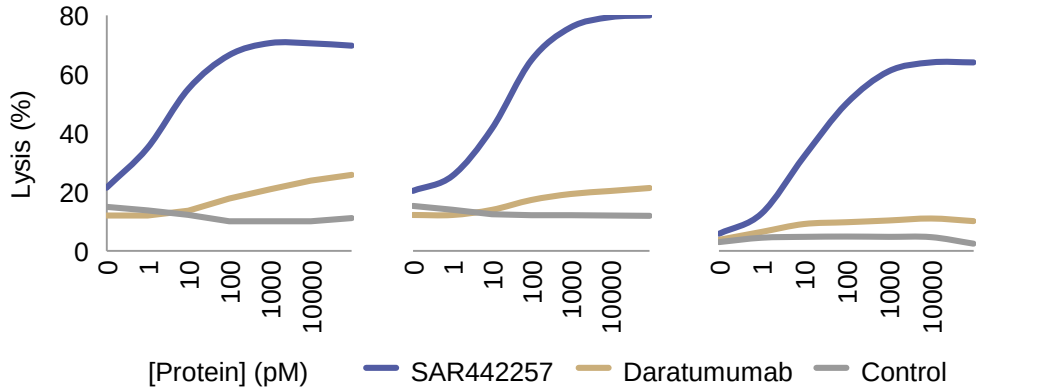
- T-cell engager aiming for enhanced therapeutic efficacy vs conventional T-cell engagers
- Expect CAR-T cell-like efficacy with an antibody

Dual function of targeting CD28

- Co-stimulation of T-cells by delivering "signal 2" to promote T-cell survival
- Targeting CD28 (expressed on >95% of MM cells) directs T-cells more efficiently to myeloma cells (even at low levels of CD38 expression)

Trispecific CD38 antibody showed a 3- to 4-log higher killing potency against human myeloma cell lines vs. daratumumab(1)

	RPM I8226	U266	KMS-11
CD38/cell	129,000	14,000	2,500
CD28/cell	84,000	170,000	35,000



First-in-human study in RRMM and RR-NHL initiated

MM: Multiple myeloma; RRMM: Relapsed refractory multiple myeloma; RR-NHL: Relapsed refractory non-Hodgkin lymphoma
(1) Wu, L. *et al* Nature Cancer, 2019: mix peripheral blood mononuclear cells with myeloma cell lines and applied antibodies
SAR442257 is an asset under investigation and is not approved by any regulators

Next-gen T-cell engagers based on Nanobody® platform

Advantages inherent to Nanobody® platform

Ability to tune PK profile through clinically validated half-life extension technology reduces dosing frequency

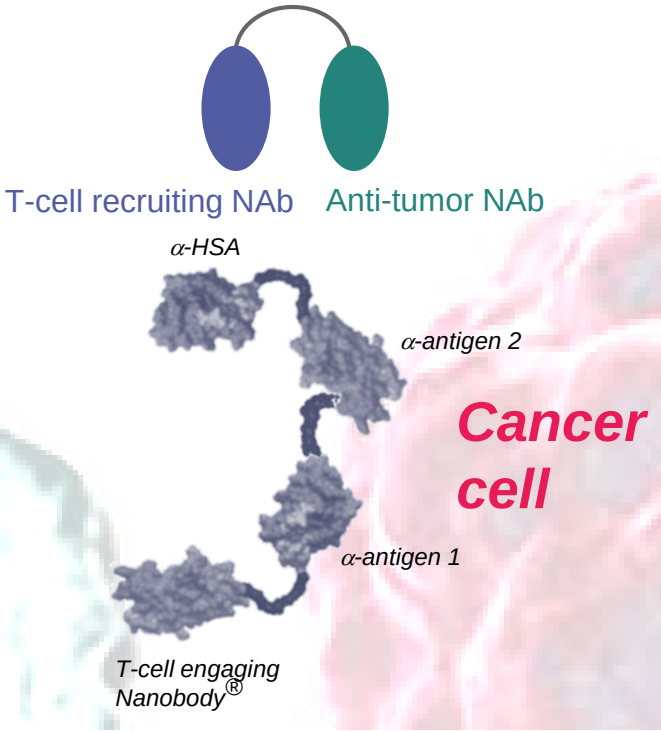
Formatting flexibility

- Multiple options for optimizing
- Multi-valent and multi-specific formats to increase efficacy, selectivity and/or avoid escape
- Engineer high affinity on low-density tumor antigens

Faster production cycle time at lower cost (expressed in yeast)

Excellent CMC characteristics, robust manufacturing

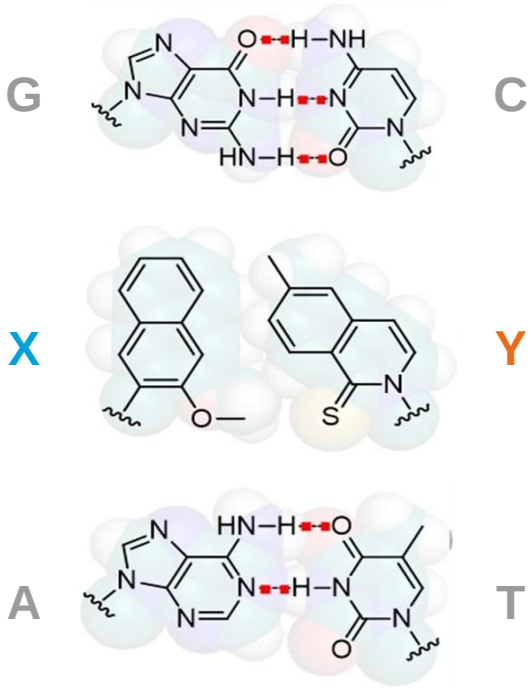
A leading IP position in the industry



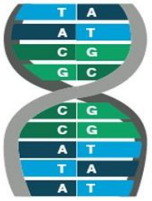
Multiple Nanobody® candidates entering the clinic next year

PK: Pharmacokinetics; CMC: Chemistry, manufacturing and control; IP: Intellectual property; NAb: Nanobody

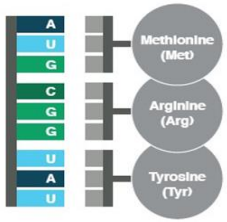
Synthorin platform: Expanding the genetic alphabet to generate more diverse protein drugs



Nature DNA → mRNA → Amino Acids → Proteins



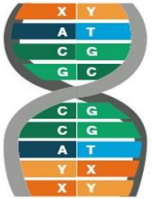
4 nucleotides
2 base pairs



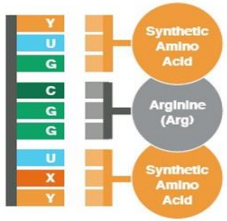
64 codons code for 20 amino acids

Amino acids determine the shape and function of proteins

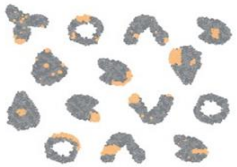
Expanded alphabet eDNA → eRNA → Amino Acids → More diverse proteins



6 nucleotides
3 base pairs



216 codons code for up to 172 amino acids

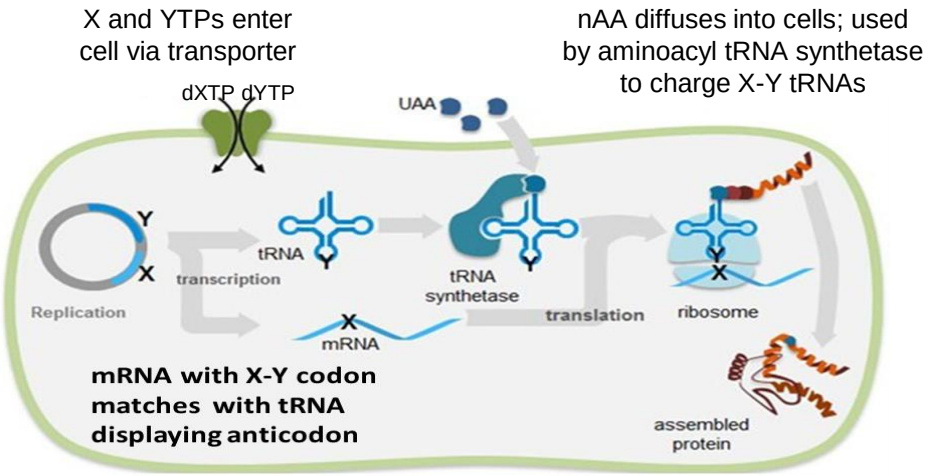


A greater variety of amino acids results in more diverse proteins

Application of the X-Y genetic code for recombinant production of therapeutic proteins: Synthorins

Engineered *E. coli* to install a novel amino acid (nAA) utilizing X-Y to produce optimized biologics

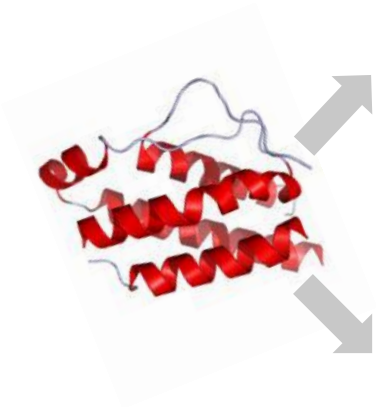
Production system for Synthorins in *E. coli*



Translation Machinery decodes X-Y codons introduce nAA into "Synthorin" proteins

First application is multi-functional, site-specific pegylation

IL-2 has dual pharmacology explained by differential engagement of IL-2 receptor subtypes



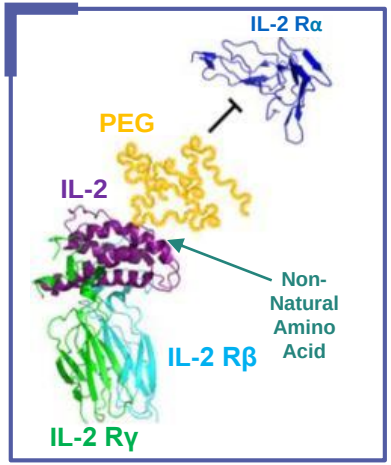
Receptor type	Immune cells activated	Immune response
αβγ High affinity (K_d ~ 10^{-11}M)	Treg CD4+ Primarily Treg	**Suppression** Treg proliferation → suppression of CD8 Teff and NK Cells **Side effects** ILC2 expansion → eosinophils (vascular leak syndrome)
βγ Intermediate affinity (K_d ~ 10^{-9}M)	CD8 Teff NK Broadly expressed	**Stimulation** Proliferation of CD8 Teff and NK Cells

Site-specific pegylation allows fine-tuning receptor interactions

Treg: regulatory T cells; Teff: effector T cells; NK: Natural Killer; ILC2: Group 2 Innate Lymphoid Cells

Site-specific pegylation to turn interleukins into precision drugs for oncology and autoimmune disease indications

THOR-707 IL-2
Synthorin for immuno-oncology

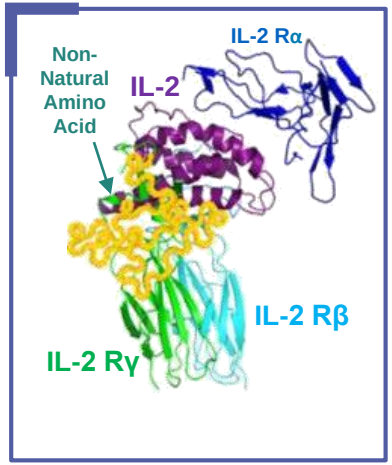


Unique properties

- PEG blocks engagement of IL-2R α chain
- Selectively expands anti-tumor CD8+ T and NK cells
- No expansion of immune-suppressive CD4+ regulatory T cells
- No activation of type 2 innate lymphoid cells and eosinophils responsible for vascular leak syndrome

"Not-alpha"

THOR-809 IL-2
Synthorin for autoimmune diseases



Unique properties

- PEG blunts engagement of IL-2R β chain, making potency at IL-2R αβγ contingent on α chain binding
- Selectively expands CD4+ regulatory T cells
- No expansion of CD8+ T and NK Cells
- Preclinical therapeutic efficacy in delayed type hypersensitivity

"Reduced beta"

Shared pharmacological properties: pegylation increasing IL-2 half-life and reduced immunogenicity risk

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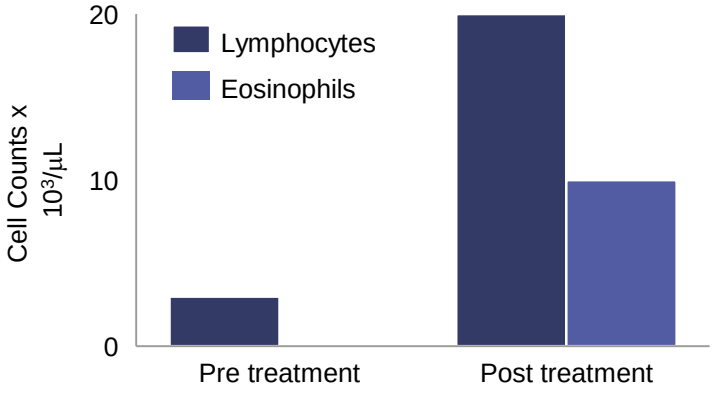
NK: Natural killer

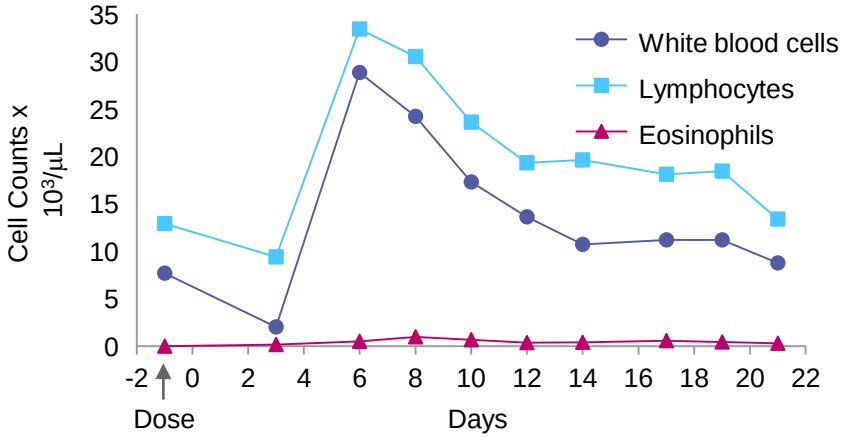
Single THOR-707 dose induces lymphocyte expansion in non-human primates without increasing eosinophils

Aldesleukin induced both lymphocyte and eosinophil expansion in humans[1]



Aldesleukin dosing limited in people (37 µg/kg) and NHP (25 µg/kg and higher) by VLS

THOR-707 single dose NHP leukocyte Subpopulations: High lymphocytes, no eosinophils



No signs of VLS in NHP with THOR-707 up to 1,000 µg/kg (highest dose level tested)

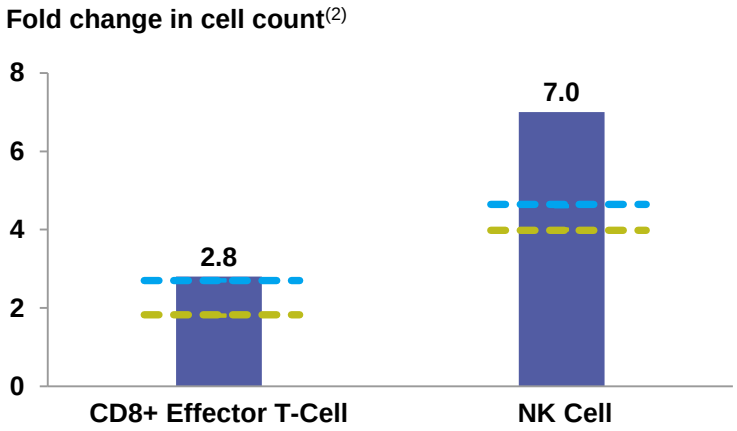
Compared to aldesleukin, THOR-707 shows a strong preference for expanding tumor-fighting lymphocytes vs. eosinophils which are responsible for VLS

NHP: Non-human primates; VLS: Vascular leak syndrome
(1) Meyers FJ, *et al* Clin Pharmacol Ther. 1991
THOR-707 is an asset under investigation, not approved by any regulators

HAMMER FIH study: Promising early biomarker data

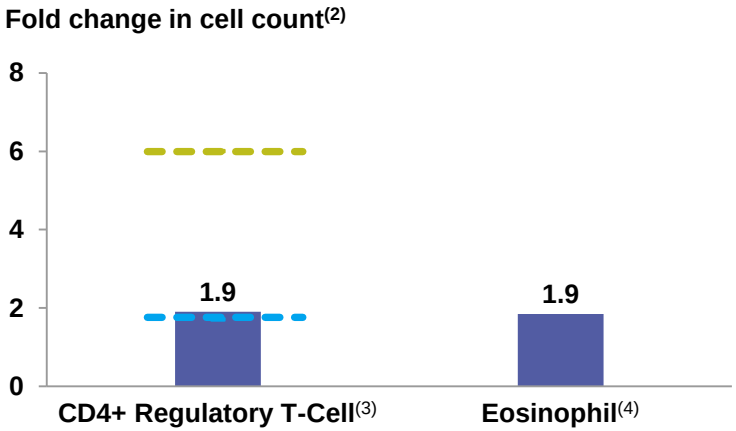
Pharmacodynamics markers of surrogate anti-tumor activity

Peak peripheral expansion post initial THOR-707 dose(1)



Pharmacodynamics markers of selectivity and surrogate safety

Peak peripheral expansion post initial THOR-707 dose(1)



THOR-707
At 16 µg/kg, further dose escalation ongoing

RG7461
At RP2D (26 µg/kg)(5)

NKTR-214
At RP2D (6 µg/kg)(6)

FIH: First In Human; RP2D: Recommended Phase 2 Dose

(1) Mean across dose cohort of 4 patients, maximum fold expansion following one dose of THOR-707 (2) Normalized to pre-treatment count (3) Surrogate Marker of Potential Tumor-Promoting Immunosuppression (4) Surrogate Marker of Potential Vascular Leak Syndrome (5) Estimated from Melero et al, ESMO 2018, 2-week expansion (6) Estimated from Bentebibel *et al*, Cancer discovery, 2019, mean expansion between day 1 (before treatment) and day 8 (after treatment)

THOR-707 is an asset under investigation, not approved by any regulators

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Landscape of IL-2 compounds in development – THOR707 has best-in-class profile

✕ No ✓ Yes, limited ✓ Yes

	 aldesleukin[1]	 ALKS 4320[2]	 NKTR-214[3]	 RG7461[4]	 THOR-707[5]
Description	Native IL2	Fusion protein IL-2 fused to IL-2Rα	Random Lys pegylation with (on avg.) 6 cleavable PEGs	Fusion protein IL-2v fused to FAP-mAb	Site-specific pegylation
Dose (IL-2 equivalent)	37 µg/kg TID x 5 days	6 µg/kg/day	6 µg/kg Q3W	~26 µg/kg QW equivalent	16 µg/kg, dose escalation ongoing
Not Alpha	✕	✓	✕	✓	✓
Exposure[6]	✕	✕	✕	✓	✓
Q3W dosing	✕	✕	✓	✕	✓
Expansion of CD8+T-cells Significant fold increase above baseline[7]	*n.a.*	✓	✓	✓	✓
Expansion of NK cells Significant fold increase above baseline[8]	*n.a.*	✓	✓	✓	✓
No expansion of CD4-Tregs No significant fold increase above baseline[9]	*n.a.*	✓	✕	✓	✓
No Vascular Leak Syndrome	✕	✓	✓	✓	✓
Tolerability	✕	✓	✕	✓	✓
No anti-drug antibodies	✕	?	✓	✕	✓

TID: three times a day; QD: every day; QW: every week; Q3W: every three weeks; NK: Natural killer; n.a.: non available (1) Lotze M T *et al*, J Immunol 1985; Meyers FJ, *et al* Clin Pharmacol Ther. 1991; Foureau *et al* Cancer Immunol Immunother 2014; Schantz *et al*, Arch Otolaryngol Head Neck Surg 1990 (2) Lopes *et al*, Journal for ImmunoTherapy of Cancer 2020; medication package insert (3) Bentebibel *et al*, Cancer discovery, 2019; Charych *et al*, PLOS One 2017 (4) Melero *et al*, ESMO 2018. IL-2 equivalent dose assessed based on recommended dose (20 mg), avg. weight (70 kg) and relative size (RG7461 11x larger than IL-2 as the cytokine is fused to 150,000 daltons IgG) (5) Synthorx data (6) Only THOR-707 has shown sustained exposure: RG7461 exposure is reduced with repeat dosing, all other compounds have low exposure (7) Yes: >2x; Yes, limited: 1.5-2x; No: <1.5x (8) Yes: >2x; Yes, limited: 1.5-2x; No: <1.5x (9) Yes: <2x; No: >2x. For illustrative purposes. Not based on head to head data. Limited conclusions should be derived from this indirect comparison given the variability of study designs. Clinical relevance of these differences is still under investigation

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Beyond interleukins, the X-Y genetic code technology enables diverse applications using nAA chemistry

- Multispecific biologics
- Tailoring nucleophile/electrophile chemistry
- Bioconjugation
- Peptide drug conjugates
- Novel binding surfaces
- Hydrolysable linkers/protection
- Macro-cyclization

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nAA: novel Amino Acid

Conclusions

- **Expanded Genetic Alphabet** has the potential to turn interleukins into **precision drugs for oncology and autoimmune diseases**
- **THOR-707 and THOR-809 harness dual IL-2 biology**:
  - **“Not-alpha” THOR-707 selectively upregulates CD8+ T and NK cells** to eliminate tumors without increasing CD4+ regulatory T cells (Tregs) and eosinophils
  - **“Decreased beta” THOR-809 selectively upregulates Tregs** to suppress autoimmunity without upregulating CD8+ T and NK cells
- **Initial biomarker data from human studies** increases our confidence in **THOR-707** potential to become partner of choice for checkpoint inhibitors (no ADA issues; well tolerated; target pathway engagement)
- **THOR-707** dose-finding Phase 1b combinations with anti-PD-1 (T-cell) and anti-CD38 (NK cell), final Phase 1 results and RP2D expected in 2021
- **Wide applicability of Synthorx platform** expected to yield **multiple clinical candidates** in coming years, with **further precision interleukins to enter the clinic in 2021-2023**

NK : Natural Killer; IL: Interleukin; ADA: Anti-drug antibody; RP2D: Recommended Phase 2 dose

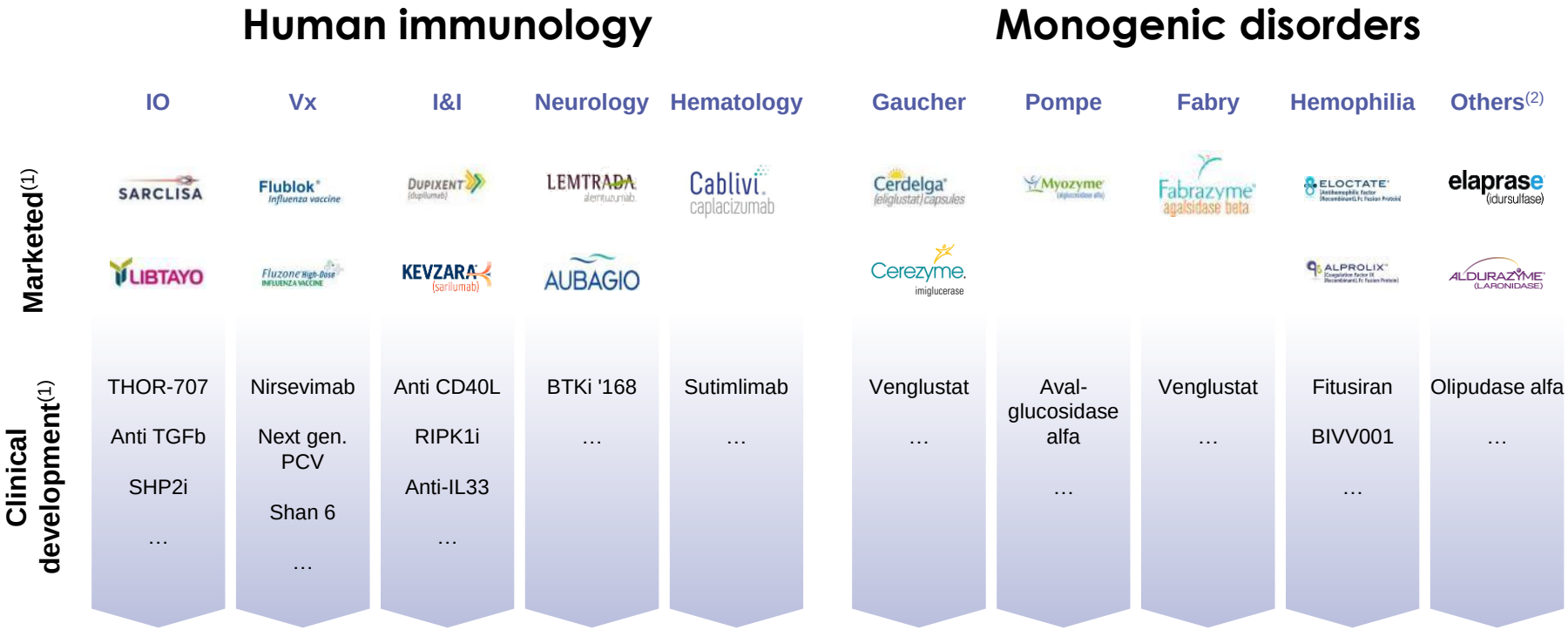
Pathways
Introduction

John Reed

Global Head of Research & Development

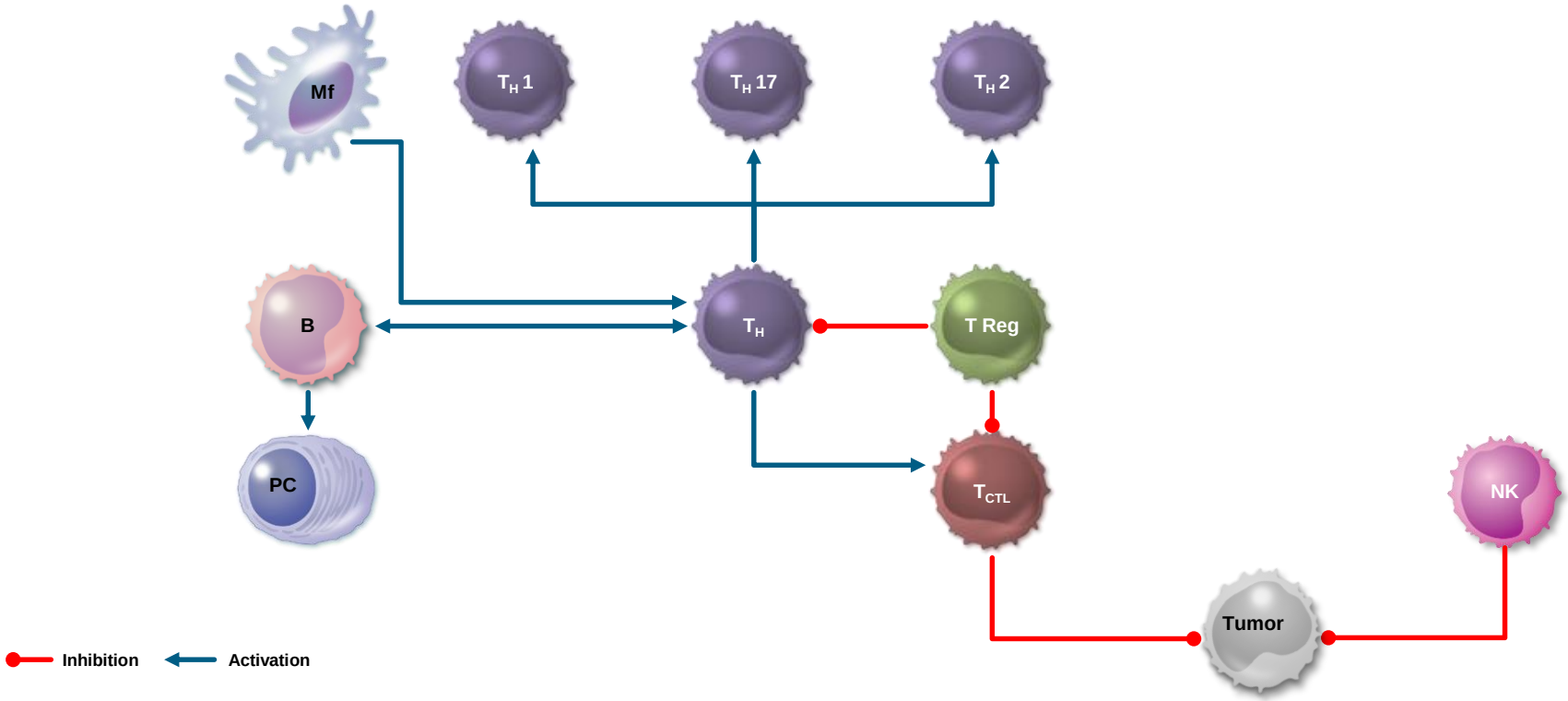
SANOFI

Two areas where Sanofi science stands out specifically



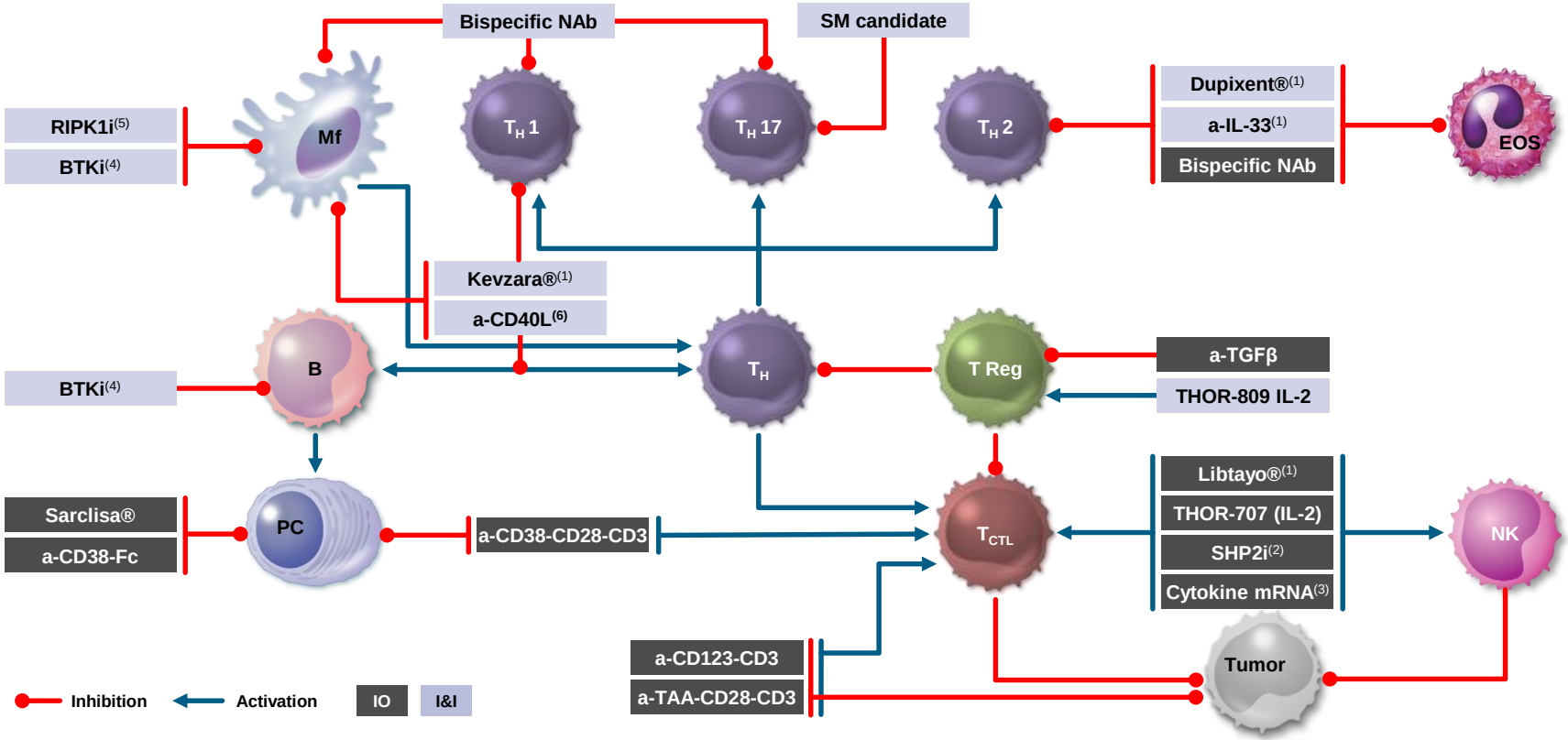
IO: Immuno-oncology; Vx: Vaccines; I&I: Immunology and Inflammation
(1) Selection of assets (2) Including Hunter disease, Hurler disease, Niemann-Pick
Note: Includes Sanofi wholly-owned and assets developed in collaboration

Human immunology: A view into our immunomodulatory pipeline and products



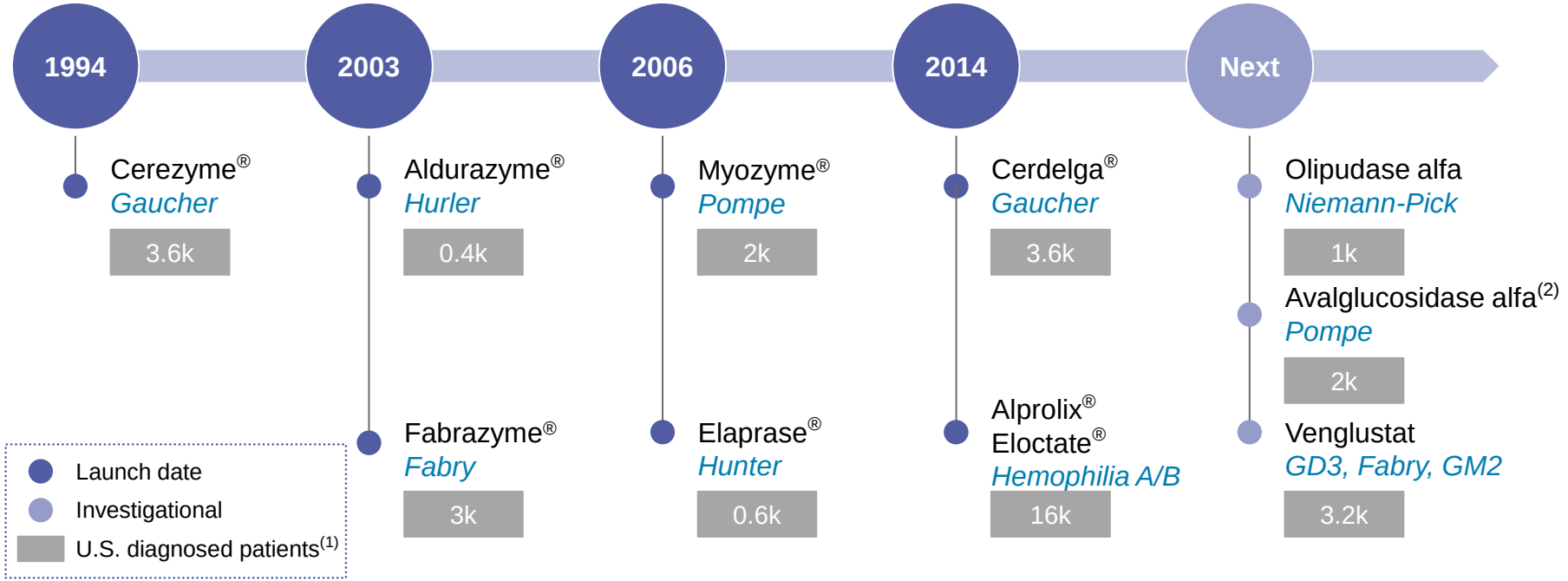
Mf: Macrophages; PC: Plasma cells; TH: T helper cells; TCTL: Cytotoxic T lymphocytes; NK: Natural killer cells; TReg: Regulatory T cells

Human immunology: A view into our immunomodulatory pipeline and products



Mf: Macrophages; PC: Plasma cells; TH: T helper cells; TCTL: Cytotoxic T lymphocytes; NK: Natural killer cells; TReg: Regulatory T cells. EOS: Eosinophils; SM: Small molecule; NAb: Nanobody; IO: Immuno-oncology; I&I: Immunology and Inflammation. (1) In collaboration with Regeneron (2) In collaboration with Revolution Medicines (3) In collaboration with BioNTech (4) In collaboration with Principia (5) In collaboration with Denali Therapeutics (6) In collaboration with ImmuNext

Sanofi's pioneering history in Monogenic disorders



Life-threatening and life-altering indications, still highly under-diagnosed

(1) DRG, 2018, number of patients diagnosed in the U.S., thousands (2) Press release on Phase 2 results published of June 16, 2020

Pathways
Venglustat

Karin Knobe

TA Head, Rare Diseases & Rare Blood Disorders Development

Pablo Sardi

TA Head, Rare and Neurologic Diseases Research

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Leveraging Sanofi's heritage in LSD and GSL metabolism

Making a difference in patients with LSDs

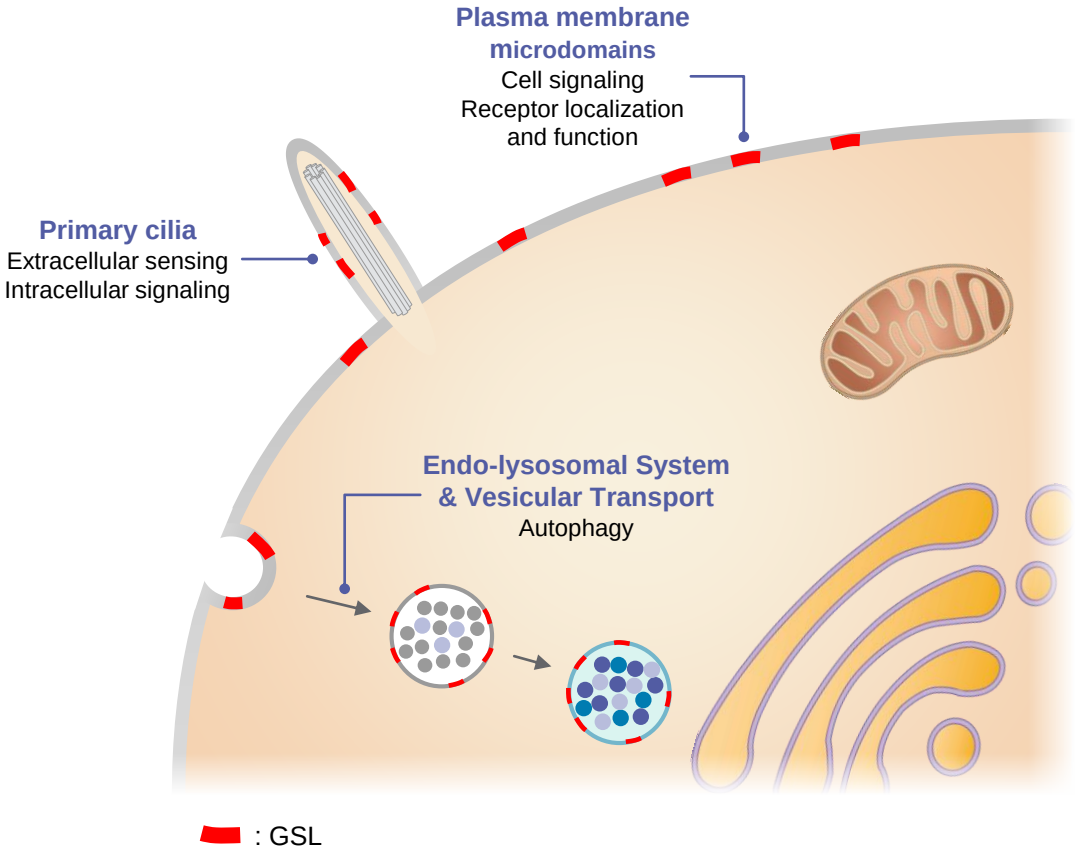
Sanofi Genzyme LSD heritage

Expanding the reach in more common disorders with large unmet need

LSD: Lysosomal storage disease; GSL: Glycosphingolipid

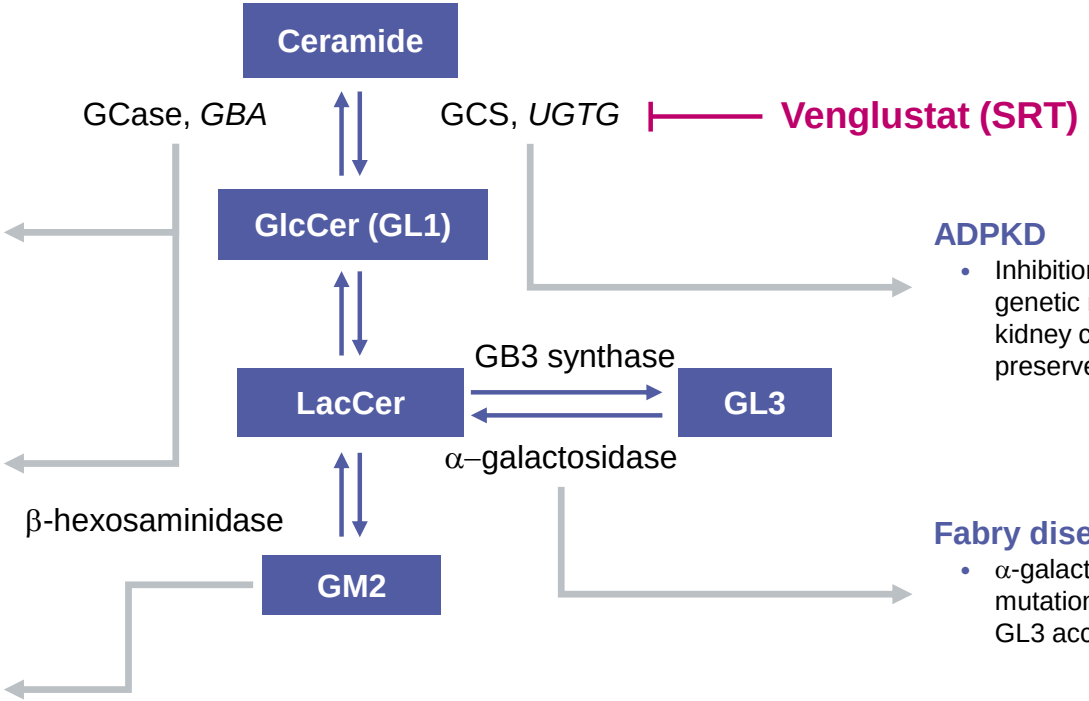
Broad role of glycosphingolipids in cellular functions

- GSLs are components of many cellular membranes
- GSLs can interact with adjacent proteins within the membrane to modulate protein function
- Plasma membrane GSLs provide surface features that provide cell recognition signals
- GSLs modulate many cellular processes required for normal function



GSL: Glycosphingolipid
Source: Natoli *et al*; Cellular Signalling 69, 2020

GCS-inhibition as central regulator of GSL metabolism



Gaucher disease
- GBA mutation and lysosomal GL1 accumulation in the spleen liver, bone marrow, lungs and brain

GBA-Parkinson's disease
- Mutant GBA highest risk factor for Parkinson's disease
- Inhibition of GCS in PD models arrests disease progression

GM2 gangliosidosis
- β-hexosaminidase mutations and lysosomal GM2 accumulation

ADPKD
- Inhibition of GCS in genetic models reduces kidney cyst growth and preserves kidney function

Fabry disease
- α-galactosidase mutations and lysosomal GL3 accumulation

GSL: Glycosphingolipid; GCS: Glucosylceramide synthase, coded by gene *UGTG*; Gcase: Glucocerebrosidase, coded by gene *GBA*; GlcCer (GL1): Glucosylceramide; LacCer: Lactosylceramide; GL-3: Globotriaosylceramide; ADPKD: Autosomal dominant polycystic kidney disease; PD: Parkinson's disease; GM2 gangliosidoses: rare autosomal recessive genetic disorders including Tay-Sachs and Sandhoff disease; SRT: Substrate-reduction therapy
Venglustat is an asset under investigation and is not approved by any regulators

Treatment dimensions give venglustat potential to be best-in-class oral GCS-inhibitor

	1st gen GCS-inhibitors(1)	Venglustat target profile
Treatment burden	Oral; twice-daily	Oral; once-daily
Potency/selectivity	Medium	High
Brain penetrance	Very limited	Yes
Applicability	Multiple LSDs	Multiple LSDs & other GSL pathologies

GCS: Glucosylceramide synthase; LSD: Lysosomal storage disease; GSL: Glycosphingolipid
(1) Examples include miglustat, eliglustat, lucerastat
No head-to-head studies comparing above products have been conducted. Venglustat target profile is aspirational and comparisons with other therapies cannot be made at this time. Venglustat is an asset under investigation and is not approved by any regulators

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Venglustat: Leveraging GCS biology in CNS & key organs

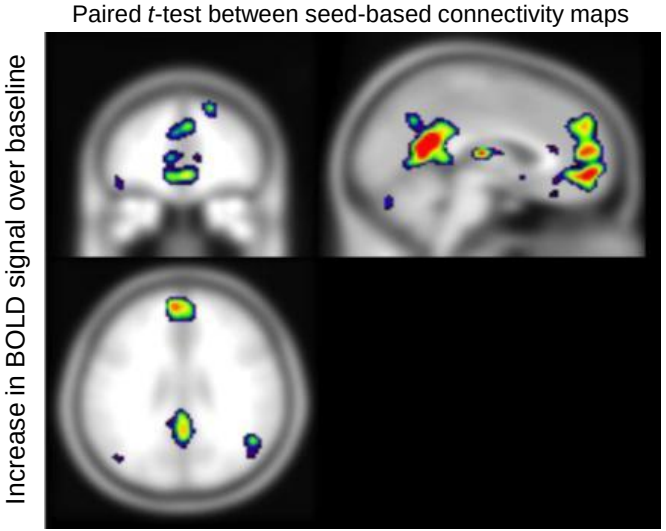
	LSDs	Beyond LSD
Brain	**Central Manifestations of LSDs: GD3 & GM2**	**PD with GBA mutations and potentially idiopathic PD with GSL pathologies**
	U.S. diagnosed GD3 patients: ~75 U.S. diagnosed GM2 patients: ~100	U.S. GBA-PD population: ~78,000
Kidney/ heart	**Potential new treatment option for Fabry patients with lower disease burden** (~40% of diagnosed)	**ADPKD with PKD1 or PKD2 mutations affecting GSL signaling in cilia**
	U.S. diagnosed Fabry patients: ~3,000	U.S. ADPKD population: ~140,000

GCS: Glucosylceramide synthase; CNS: Central nervous system; LSD: Lysosomal storage disease; GSL: Glycosphingolipid; GD3: Type 3 Gaucher Disease; GM2 gangliosidoses: rare autosomal recessive genetic disorders including Tay-Sachs and Sandhoff disease; PD: Parkinson's disease; ADPKD: Autosomal dominant polycystic kidney disease. Venglustat is an asset under investigation and is not approved by any regulators

Venglustat's activity validated in GD3 and in Fabry

Gaucher Type 3

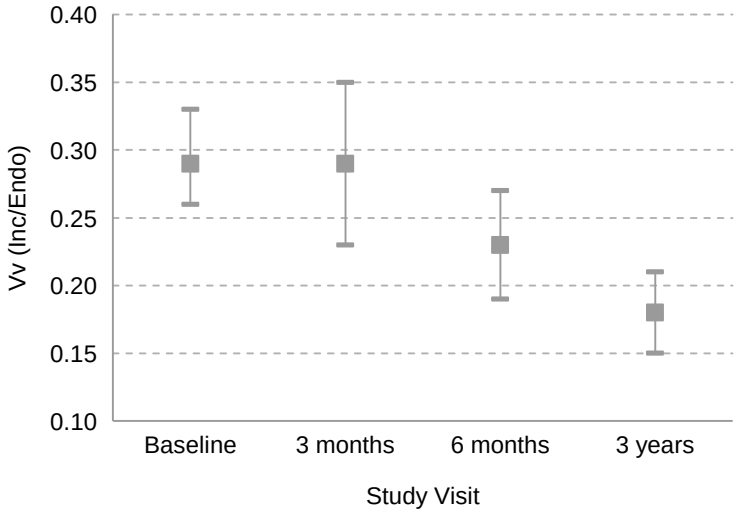
Phase 2 data at 1 year



Enhanced occipito-parietal connectivity is the most prominent feature

Fabry

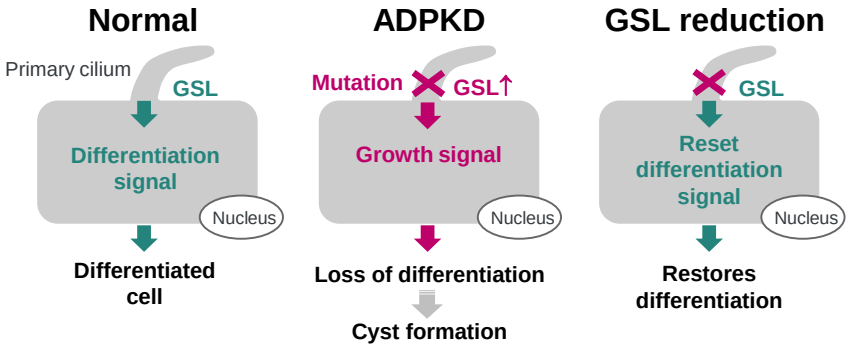
Phase 2 data at 3 years



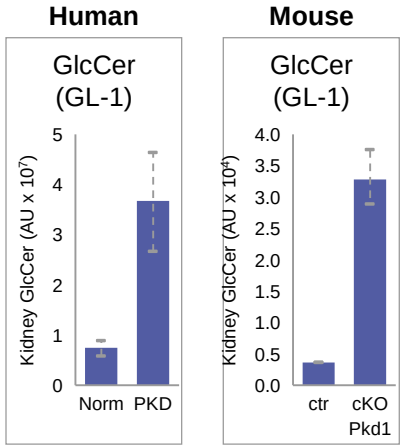
Reduction in lysosomal GL3 storage

Venglustat: Transformative potential in ADPKD

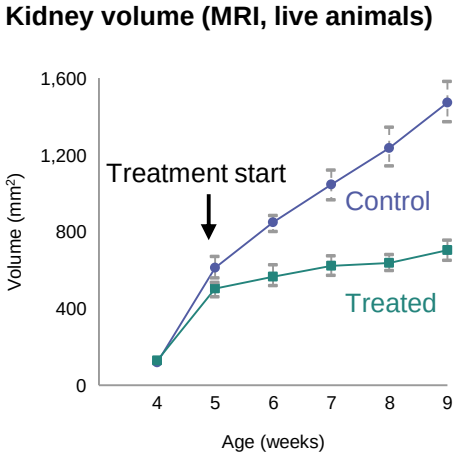
GCS inhibition restores differentiation signaling in ADPKD



Robust preclinical data in validated animal model(1)



↑ glycosphingolipid levels in cystic kidneys



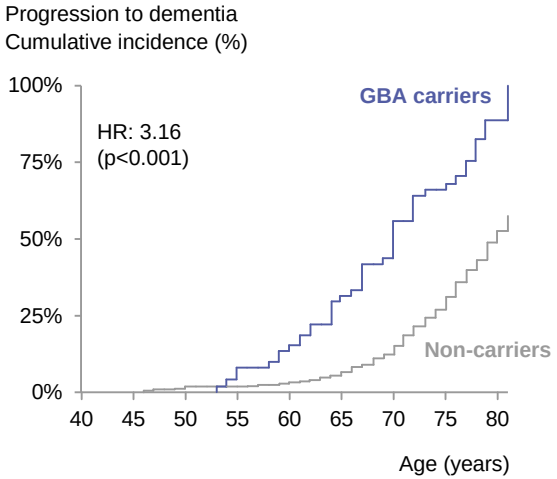
GCS inhibition slows cyst growth

Phase 3 STAGED-PKD: Stage 2 initiated at high dose based on tolerability profile

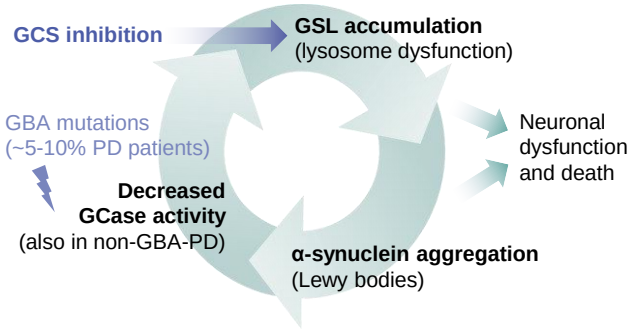
GCS: Glucosylceramide synthase; ADPKD: Autosomal dominant polycystic kidney disease; GSL: Glycosphingolipid; GlcCer: Glucosylceramide; MRI: Magnetic resonance imaging. (1) Natoli *et al*, Nat Med. 2010
Venglustat is an asset under investigation and is not approved by any regulators

Venglustat: Potentially first DMT in GBA-PD

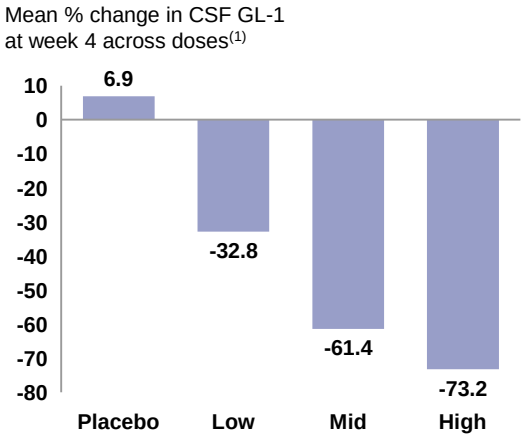
GBA mutations associated with higher PD incidence and greater disease severity



Venglustat: potential to be the first disease modifying therapy in PD via GBA-PD



MOVES-PD: first industry sponsored clinical trial in a genetic form of PD



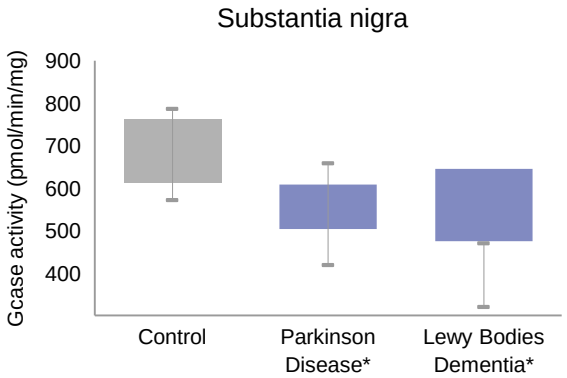
DMT: Disease-modifying therapy; PD: Parkinson's disease; HR: Hazard ratio; GSL: Glycosphingolipid; GCase: Glucocerebrosidase; GCS: Glucosylceramide synthase; CSF: Cerebrospinal fluid; GlcCer (GL1): Glucosylceramide

(1) MOVES-PD part 1 data presented at WORLD 2019 for 32 weeks of treatment, pool Japan + Rest of World

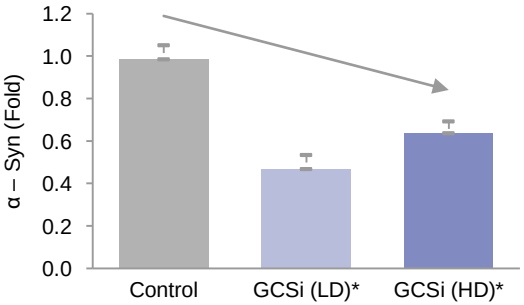
Venglustat is an asset under investigation, not approved by regulators

Preclinical evidence for therapeutic benefit of venglustat in sporadic PD population

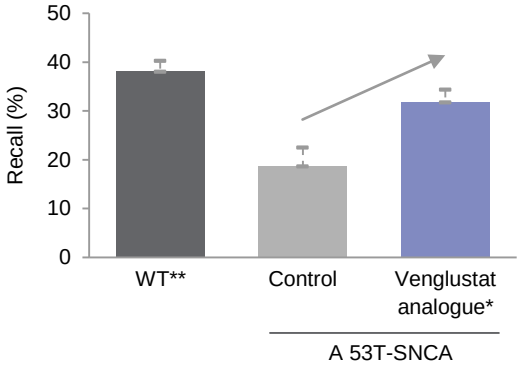
Loss of GCase activity in sporadic PD and Lewy bodies dementia[1]



GCS inhibition reduces toxic α-Synuclein conversion[2]



GCS inhibition improves cognitive function in mouse model[3,4]



FDA recommendation to include idiopathic PD patients in Phase 3

*p-value vs. Control <0.05; **p-value vs. Control <0.01
GCase: Glucocerebrosidase; GCS: Glucosylceramide synthase; PD: Parkinson's disease; LD: Low dose, HD: High dose; WT: Wild type
(1) Chiasserini *et al*, Mol. NDD 2015 (2) Zunke *et al*, Neuron 2018 (3) Sardi *et al*, PNAS 2017 (4) In A53T-α-synuclein mice carrying wild-type *Gba* allele
Venglustat is an asset under investigation and is not approved by any regulators

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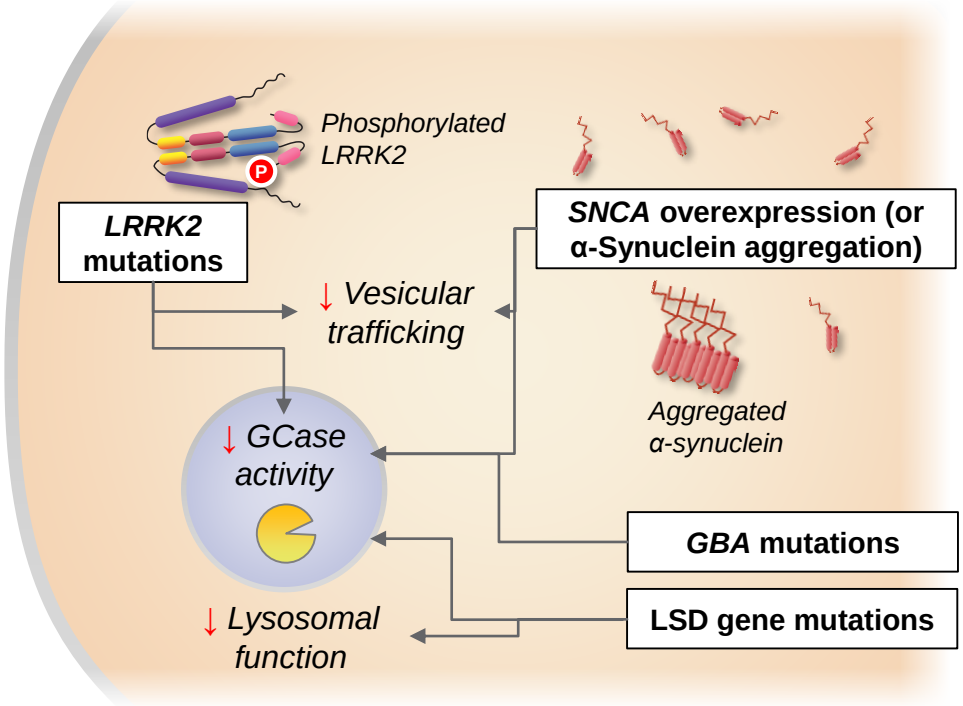
Lysosome pathway defects are central to most PD

Gene mutations associated to PD affect lysosomal function, GCase activity and GSL flux

- Synuclein overexpression and aggregation reduce GCase activity[1]
- *SNCA* and *LRRK2* mutations reduce vesicular trafficking and lysosomal activity[1,2]
- *LRRK2* and *GBA* mutations reduce GCase activity and affect GSLs levels[2,3]
- Excessive burden of LSD gene variants in PD[4]

Modulation of GSLs levels by GCS inhibition improves lysosomal and neuronal function, and reduces alpha-synuclein toxicity



GSLs regulate cellular processes driving Parkinson's disease progression[5]

GCase: Glucocerebrosidase; GCS: Glucosylceramide synthase; PD: Parkinson's disease; GSL: Glycosphingolipid; LSD: Lysosomal storage disease

(1) Mazzulli *et al*, Cell 2011 (2) Ysselstein *et al*, Nature Comm 2019 (3) Gegg *et al*, Ann Neurol 2012 (4) Robak *et al*, Brain 2017 (5) Sardi *et al*, PNAS 2017; Zunke *et al*, Neuron 2018

PD-FIDI: Potentially first validated digital endpoint in PD

ePRO & App assessments

Wrist-worn device assessments

Part I
Motor impacts

- 13 items adapted from MDS-UPDRS Part II

Part II
Dyskinesia impacts(1)

- 2 items adapted from MDS-UDyRS Part Ib

Part III
Functional motor impacts

- Gait and balance including stride length
- Postural tremor of hands
- Pronation/supination of hands
- Finger tapping

Part IV
Continuously monitored functional impacts

- Gait and balance
- Physical activity and general mobility

Measured passively and continuously

Exploratory Sleep Assessments

- 4 original ePRO items assessing sleep duration and quality
- Sleep duration and quality actigraphy measures (measured passively and continuously)

Additional data could mean lower variability, so fewer subjects needed to achieve statistical power

PD: Parkinson's disease; FIDI: Functional impacts digital instrument; MDS-UPDRS: Movement Disorder Society Unified Parkinson's Disease Rating Scale; MDS-UDyRS: Movement Disorder Society Unified Dyskinesia Rating Scale; PRO: Patient reported outcomes
(1) Only included for patients taking PD medications

Venglustat: Leveraging GCS biology in CNS & key organs

	LSDs	Beyond LSD
Brain	**GD3: LEAP Phase 2/3 ongoing**(1) • Submission expected by H1 2023 **GM2: Phase 3 started** • Submission expected by H2 2023	**Parkinson (MOVES-PD)** • Phase 2 PoC expected by H1 2021 • Submission expected by 2025
Kidney/ heart	**Fabry: Phase 3 in preparation** • Submission expected by H2 2023	**ADPKD (STAGED-PKD)** • Part A fully enrolled (TKV) • Part A (TKV) pivotal results expected by Q4 2021 • Submission expected by 2022

GCS: Glucosylceramide synthase; CNS: Central nervous system; LSD: Lysosomal storage disease; PoC: Proof of concept, clinical and commercial evidence to initiate pivotal study; ADPKD: Autosomal dominant polycystic kidney disease; GD3: Type 3 Gaucher Disease; GM2 gangliosidoses: rare autosomal recessive genetic disorders including Tay-Sachs and Sandhoff disease; TKV: Total Kidney Volume; GFR: Glomerular Filtration Rate. Venglustat is an asset under investigation and is not approved by any regulators
(1) Current LEAP Phase 2 study to be expanded to Phase 3 by end of year

Q&A session 1

Paul Hudson
Chief Executive Officer

John Reed
Global Head of R&D

Jean-Baptiste de Chatillon
Chief Financial Officer

Bill Sibold
Global Head of Sanofi Genzyme

Yong-Jun Liu
Global Head of Research

Dietmar Berger
Global Head of Development

Marcos Milla
Chief Scientific Officer, Synthorx

Karin Knobe
TA Head, RD and RBD Development

Pablo Sardi
TA Head, RND Research

Shannon Resetich
Global Franchise Head, RD

RD: Rare Diseases; RBD: Rare Blood Disorders; RND: Rare and Neurologic Diseases; TA: Therapeutic area

Patients
Fitusiran & BIVV001 (1)

Vanessa Wolfeler

Global Franchise Head,
Rare Blood Disorders

Dietmar Berger

Global Head of Development,
Chief Medical Officer

SANOFI

(1) In collaboration with Sobi

Limitations of current Hemophilia treatments

	Treatment burden	Activity restrictions
Factors	⊕ Monotherapy ⊖ IV infusion ⊖ Frequent dosing	⊕ Active control on protection ⊕ Proven safe and effective ⊖ “Peak and trough” dependent protection
Non-factor (emicizumab)	⊕ SQ injection ≈ Weekly / every other week dosing usually(1) ⊖ On-demand IV Factor needed (dual therapy)	⊕ Steady state efficacy ⊖ “Normal” levels of protection out of reach(2) ⊖ Difficult to measure protection level

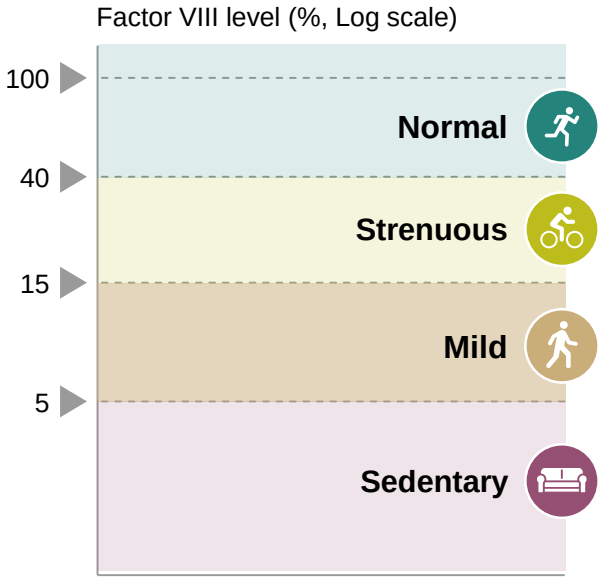
Future treatments aim to minimize treatment burden and remove activity restrictions

IV: intravenous; SQ: subcutaneous

(1) 7% of emicizumab patients on monthly dosing – 2019 Specialty Pharmacy data obtained through Specialty Pharmacy Distributors, Hemophilia Alliance HTCs & Direct HTCs

(2) <40% Factor VIII level considered as normal level; equivalent FVIII level of ~9% for emicizumab based on Lenting P *et al*, ISTH 2019, Lenting P *et al*, Blood Adv. 2020

Patients' daily activities are defined by protection levels



Daily activities	Risk with surgery/trauma	Need for supple-mental Factor	Impact
High impact activity possible with **no pain** (sports, physical jobs, active days)	Major surgery/ trauma possible without Factor requirement	None	None
Intense activity possible with **no pain** (most sports, play with friends, travel, physical jobs) – **low bleed risk**	Minor invasive procedures possible without Factor requirement	Rare	Minor adjustments
Limited activity with **some pain** (desk job, careful with active kids) – risk of **spontaneous or micro bleeds**	Invasive procedures require supplemental Factor	Regular	Significant adjustments
High risk of spontaneous bleeds with low activity and **pain** with target joints	Invasive procedures require supplemental Factor	Frequent	Vulnerable

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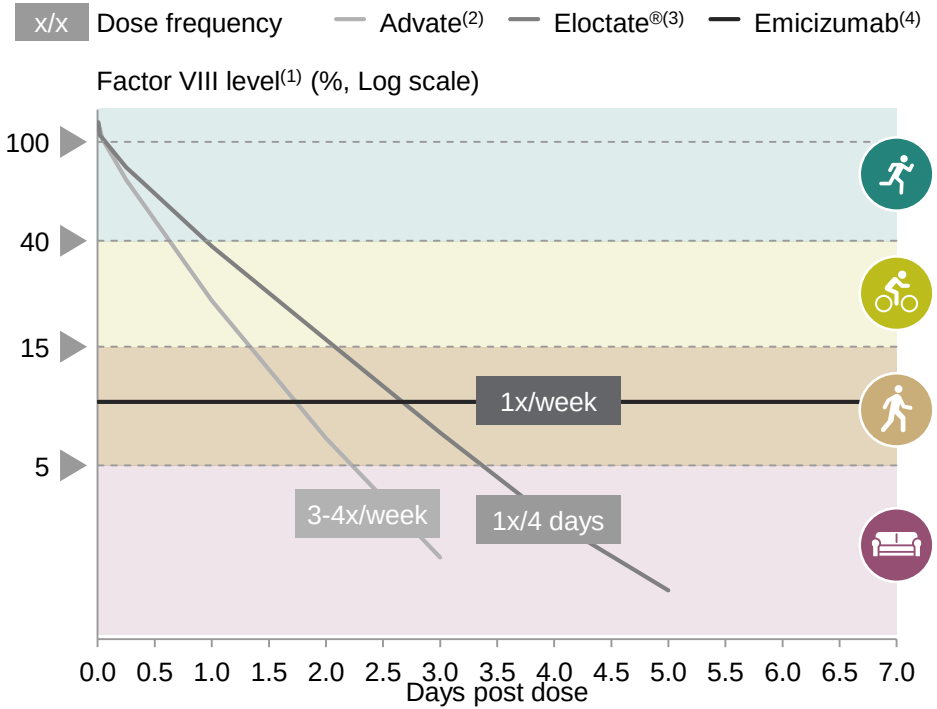
Source : Iorio *et al*, Hemophilia. 2017

Current treatments require trade-off between treatment burden and protection levels



Factors

High protection, high dose frequency

- Short-period: 2-3 infusions per week required
- Patients at risk when at trough
- Patients at risk when missing infusion

Non-Factor (emicizumab)

Reduced dose frequency, lower protection

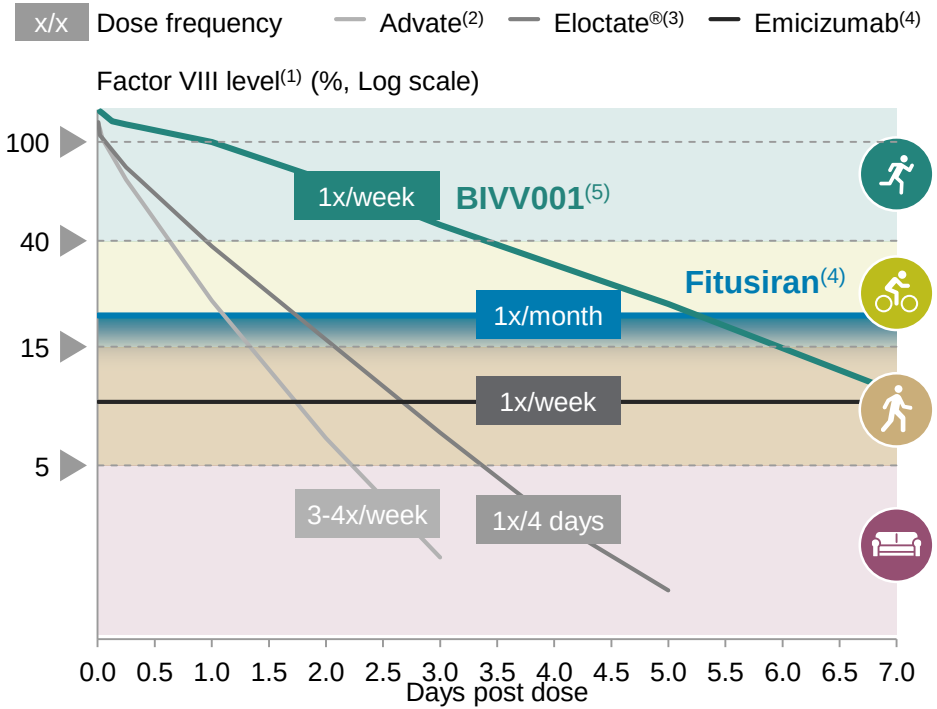
- ~9% FVIII equivalent level(4)
- 90% patients experiencing acute bleeds require additional Factor(5)
- 7% patients on monthly regimen(6)

Patients achieve protection permitting strenuous activity <50% of their time

(1) Illustration of Factor VIII levels of Hemophilia A patients, or equivalent for non-Factor (2) Advate 50 IU/Kg (Phase 3) (3) Eloctate® 50 IU/Kg (Phase 3). Source: Mahlangu, J., *et al*, Blood (4) Equivalent FVIII level, based on Lenting P *et al*, ISTH 2019, Lenting P *et al*, Blood Adv. 2020 (5) 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 (6) 2019 Specialty Pharmacy data obtained through Specialty Pharmacy Distributors, Hemophilia Alliance HTCs and Direct HTCs. No head-to-head studies comparing the above products have been conducted

SANOFI

Our ambition: Pushing patients protection beyond current limitations



BIVV001 target profile

Higher for longer

- One week of protection, including ~3.5 days at normal activity level and ~6 days at strenuous activity level
- Increased joint protection

Fitusiran target profile

High-efficacy monthly therapy

- Aiming for 15-20% FVIII equivalent level(4), allowing strenuous activity level
- First real once-monthly Hemophilia treatment

Aiming to get more patients above strenuous level for >80% of their time(6)

(1) Illustration of Factor VIII levels of Hemophilia A patients, or equivalent for non-Factor (2) Advate 50 IU/Kg (Phase 3) (3) Eloctate® 50 IU/Kg (Phase 3). Source: Mahlangu, J., *et al*, Blood (4) Equivalent FVIII level, based on Lenting P *et al*, ISTH 2019, Lenting P *et al*, Blood Adv. 2020 (5) BIVV001 50 IU/Kg (Phase 1) – Day 22 (6) Assuming FVIII level >15% all the time for fitusiran and 6 days a week for BIVV001. Fitusiran and BIVV001 are assets under investigation and are not approved by any regulators – BIVV001 in collaboration with Sobi. No head-to-head studies comparing the above products have been conducted

BIVV001: New class of factor therapy engineered to achieve higher factor levels, for longer


THROMBOSIS AND HEMOSTASIS

Comment on Seth Chhabra et al, page 1484 (1)

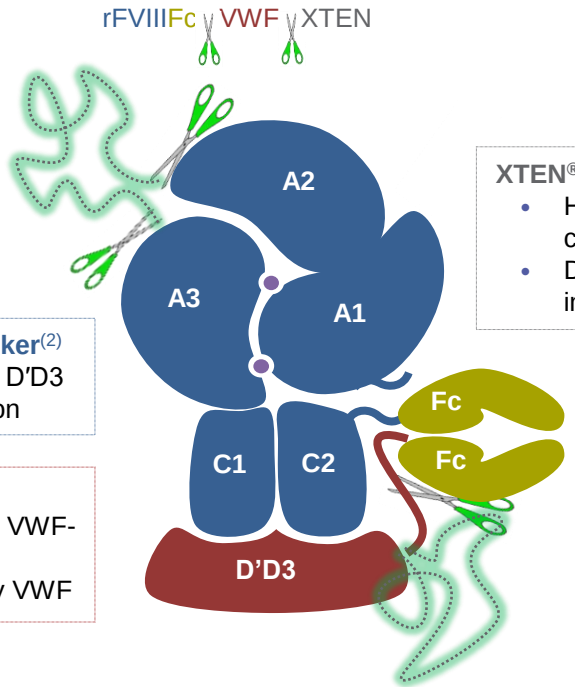
A molecular jewel for hemophilia A treatment

Julie Rayes[1] and Sébastien Lacroix-Desmazes[2] | [1]University of Birmingham; [2]INSERM

THROMBOSIS AND HEMOSTASIS

BIVV001, a new class of factor VIII replacement for hemophilia A that is independent of von Willebrand factor in primates and mice

Effects of activated thrombin



XTEN® insertions(3)
- Hydrophilic sequences comprising natural amino acids
- Decrease degradation, increase half-life

Thrombin-cleavable linker(2)
- Enables release of D'D3 upon FVIII activation

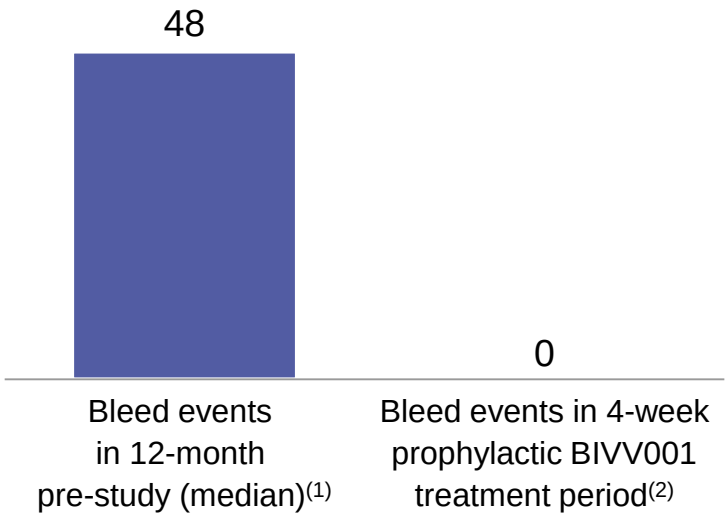
Fc domain(4,5)
- Extends half-life through FcRn-mediated recycling pathway

Covalent linkage to the D'D3 domain of VWF(2)
- Prevents binding to endogenous VWF, decoupling from VWF-mediated clearance
- Partial protection from degradation normally afforded by VWF

Scissors represent thrombin activity. rFVIIIFc: recombinant factor VIII Fc fusion protein; VWF: von Willebrand factor. aXTEN® is a registered trademark of Amunix Pharmaceuticals, Inc. (1) Julie Rayes *et al*, A molecular jewel for hemophilia A treatment, Blood, 2020 ©2020, Blood Journal (under permission requested); Ekta Seth Chhabra *et al*, BIVV001, a new class of factor VIII replacement for hemophilia A that is independent of von Willebrand factor in primates and mice, Blood, 2020 ©2020, Blood Journal (under permission requested) (2) Konkle BA *et al*, Haemophilia. 2019 (3) Podust VN, *et al,* J Control Release. 2016 (4) Roopenian DC, Akilesh S. Nat Rev Immunol. 2007 (5) Shapiro A. Expert Opin Biol Ther. 2013. BIVV001 is an asset under investigation and is not approved by any regulators – in collaboration with Sobi

No bleed events in BIVV001 Phase 1 repeat dose study

Analysis of bleeding events (n=24)



4 weekly doses well tolerated

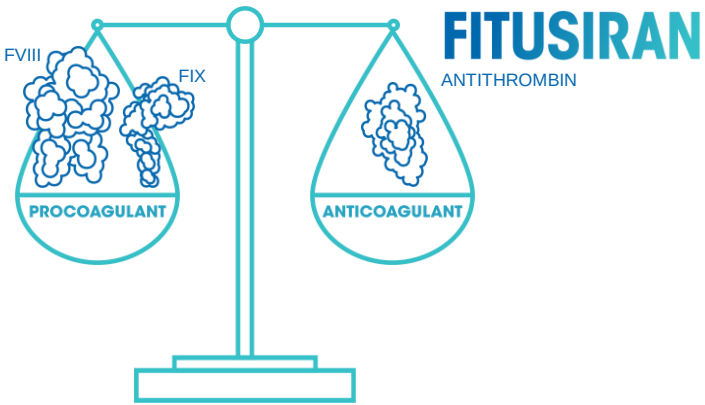
- No inhibitor development to Factor VIII detected
- No treatment-related adverse events reported
- No adverse events of allergic reaction or anaphylaxis reported

No bleeds reported during treatment period and for at least 10 days after last dose of BIVV001

(1) Pre-study treatment regimen: 21 patients treated with on-demand regimen and 3 with prophylactic regimen (2) Once-weekly BIVV001 dose of 50 IU/kg (n=10) or 65 IU/kg (n=14). Source: World Federation of Hemophilia Virtual Summit (June 2020). Exploratory results, BIVV001 is an asset under investigation and is not approved by any regulators – in collaboration with Sobi

Fitusiran: Aiming to be the only therapy designed to bring high protection in a subcutaneous monthly therapy

Unique approach to rebalance the deficient coagulation cascade by reducing antithrombin



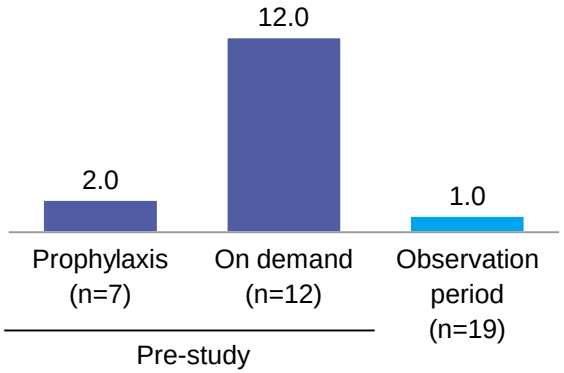
- Hemophilia A and B are caused by an **imbalance in hemostasis** due to Factor deficiency, resulting in insufficient thrombin generation
- Fitusiran is designed to **improve thrombin generation** by lowering antithrombin
- **250+ patients enrolled in clinical trials**, with 4+ years of clinical data

Fitusiran is an asset under investigation and is not approved by any regulators

Fitusiran target profile confirmed in Phase 2 OLE trial

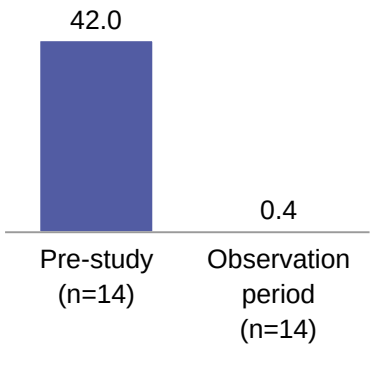
Efficacy: median ABR

Subjects without inhibitors



Median duration in observation period: 36 months (range: 5-45 months)

Subjects with inhibitors



Median duration in observation period: 28 months (range: 7-36 months)

Safety and tolerability (n=34)

- **No thrombotic events** in any subjects who remained compliant with the bleed management guidelines since their implementation in December 2017
- **No cases of anti-drug antibody formation**

0.84 overall median ABR during observation period & median 2.6 yrs of fitusiran dosing (max. 4.7 yrs)

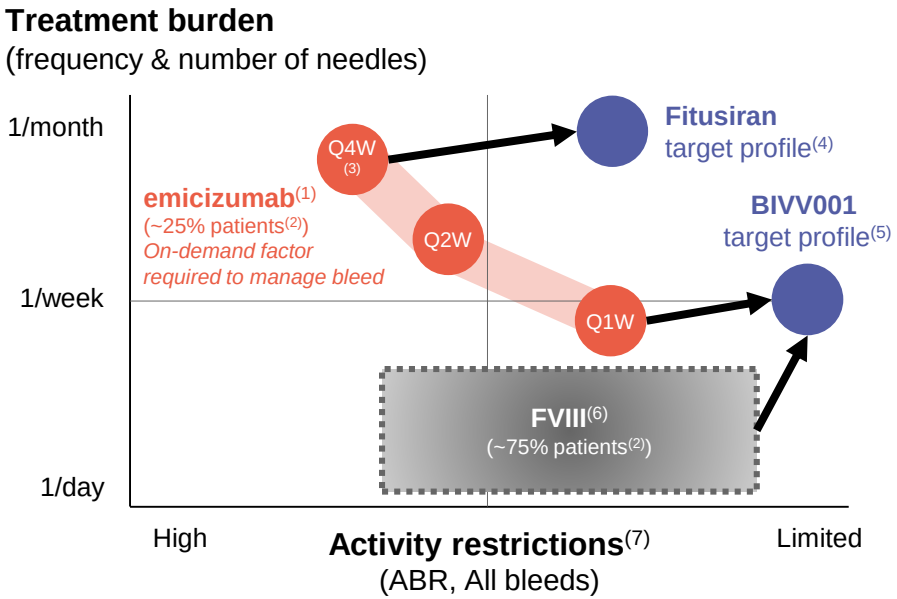
OLE: Open-label extension; ABR: Annualized bleed rate
Data cutoff: March 10, 2020. ABR and duration represent pooled data from Phase 1 and Phase 2 OLE studies. Phase 1 data are included if gap between studies was ≤56 days. Only subjects with 28 days of follow-up during the observation period are included in this analysis. Clinical hold period (last dose before hold + 29 days, first dose after hold + 28 days) is excluded. Source: Fitusiran Phase 2 OLE Interim Results, WFH (June 2020). Fitusiran is an asset under investigation and is not approved by any regulators

Fitusiran: Potential best-in-class non-Factor therapy for all Hemophilia patients

	Fitusiran (target profile)	**Emicizumab**[2]	
ABR <1 for Hem A & B (monthly dose)	✓	✗	*ABR >2 for Q4W[2] for Hem A*
First SQ for all Hem B	✓	✗	
1 prefilled syringe[1]	✓	✗	*Up to 4 injections[3]*
Low-volume fixed dose	✓	✗	*Weight-based dose; up to 4 mL[3]*
Room temperature stable	✓	✗	*Refrigeration & cold chain storage required*
Reversal agent available	✓	✗	

ABR: annual bleed rate; Hem: Hemophilia; Q4W: once every four weeks; SQ: subcutaneous
(1) Fitusiran prefilled syringe, room temperature stable: planned for launch (2) Hemlibra® U.S. Prescribing Information (3) Hemlibra® U.S. Prescribing Information, assuming some patients may be over 75kg. Fitusiran is an asset under investigation and is not approved by any regulators

Wrap-up: Sanofi portfolio addresses white space of current patients needs



Expected submissions

H2 2021(8) – Fitusiran

- Three ATLAS studies (>12 years old)
- Two of three Phase 3 studies fully enrolled; near completion of 3rd
- Pediatric Phase 3 study enrolling

H1 2022(8) – BIVV001

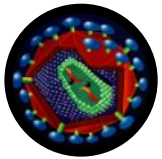
- Phase 3 study in previously treated patients initiated (>12 years), n=150
- Study initiated in Q4 2019
- Endpoints to capture impact on restrictions in daily activities

Q4W: once every four weeks; Q2W: once every two weeks; Q1W: once per week; ABR: annualized bleed rate
(1) emicizumab: 2.1 ABR with Q4W; 1.6 ABR with Q2W; 0.6 ABR with Q1W (U.S. prescribing information; median ABR (HAVEN-3 for Q1W & Q2W, HAVEN-4 for Q4W)
(2) Based on Evaluate Pharma 2020, U.S. patients (3) 7% of emicizumab patients on monthly dosing – 2019 Specialty Pharmacy data obtained through Specialty Pharmacy Distributors, Hemophilia Alliance HTCs & Direct HTCs (4) fitusiran: 0.84 ABR with Q4W (Phase 2 OLE Interim Results) (5) BIVV001: Target Product Profile aiming for weekly dose, no bleed reported in Phase 1 repeat dose study (6) Individualized prophylaxis varies from daily to every 4 days and between <1 and >1 ABR (7) No head-to-head studies comparing the efficacy of emicizumab and fitusiran or BIVV001 have been conducted (8) Expected submission in the U.S. Fitusiran and BIVV001 are assets under investigation and are not approved by any regulators – BIVV001 in collaboration with Sobi

Aiming for first “true” cure in Hemophilia with LVV GT

AAV limitations for Hemophilia patients

- **DNA insert size limitations:** challenging to package BDD Factor VIII cDNA into AAV
- **Limitations on target population**
  - 21-74% of patients have pre-existing antibodies to AAV(1)
  - Episomal AAV cargo gets diluted when liver grows – expression lost if treated too early, cannot treat pediatric patients
- **FVIII levels continuously declining over time** (long-term Hemophilia A data)



LVV target profile for Hemophilia patients

- **Larger DNA insert** size permits BDD Factor VIII cDNA and additional control elements
- **Aiming to address all patients**
  - No pre-existing antibodies to VSVG pseudotyped LVV
  - Treat in pediatrics: LVV cargo integrates into the host genome, growing with the patient
- **Expected to be durable** (integrative nature), as demonstrated in preclinical models

Sanofi/SR-TIGET to develop first-ever in vivo lenti application – expected to enter clinic by 2022

LVV: Lentiviral vector; GT: Gene Therapy; AAV: Adeno-associated virus; BDD: B-domain deleted; cDNA: complementary DNA; VSVG: Vesicular stomatitis virus glycoprotein; SR-TIGET: San Raffaele-Telethon Institute for Gene Therapy
(1) Steven W. Pipe, John Wiley & Sons Ltd. 2020

Expanding capabilities
COVID-19

Dietmar Berger

Global Head of Development,
Chief Medical Officer

John Shiver

Global Head of R&D,
Sanofi Pasteur

SANOFI

Expanding R&D capabilities, focusing on Specialty Care and Vaccines

Enhanced patient centricity

- Patient-related insights (PROs, tolerability, health value, etc.)
- Patient-centric trial conduct (leverage telehealth, home delivery, digital tools when possible)
- E-consent and patient portal improving patient experience

Digital R&D & Real World Evidence

- DARWIN platform for Real World Evidence
- Digital transformation of Clinical Operations
- Optimization of development candidates through artificial intelligence, indication selection, trial optimization, etc.
- Digital in CMC and Regulatory Affairs

Focused, simplified footprint

- Simplifying R&D footprint, focusing clinical operations where it matters
- Global hubs for priority Therapeutic Areas
- Investments in leading-edge capabilities: biomanufacturing, Gene Therapy CMC, evolutive vaccines facility

News ways of working & engagement models

- Integrated Development organization
- Fast, rigorous decision-making – taking 'smart' risks
- Early engagement of investigators to optimize study design (#1 Sponsor of Global Clinical Trials)(1)
- Multiple collaborations (e.g. BARDA, GSK)

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PRO: Patient reported outcomes; CMC: Chemistry, manufacturing and control; BARDA: Biomedical Advanced Research and Development Authority
(1) Center Watch survey 2019

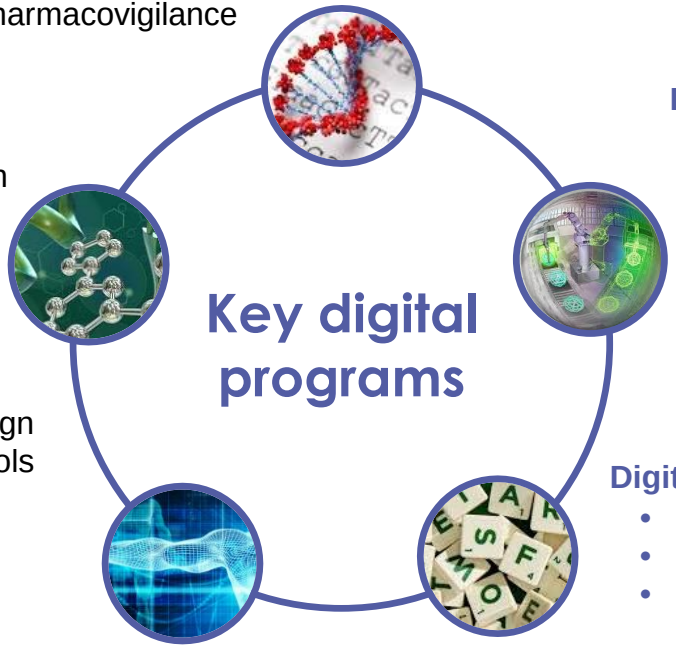
Ambitious digital transformation across Sanofi R&D

Real World Evidence

- Commercial value increase of marketed products
- Clinical trial hypotheses support, virtual control arms
- Disease models, biomarker-driven population enrichment
- Search of new indications for development compounds
- Pharmacovigilance

Digital Research

- *In-silico* screening
- AI-driven compound optimization
- *De-novo* antibody design
- ML-driven developability assessment



Digital in CMC

- Paperless CMC labs
- One data platform
- Digitized workflows across all CMC, including external partners
- Process modeling simulation

Digital Clinical Operations

- Innovative, evidence-based design
- Digital biomarkers, sensors & tools
- Patient engagement platform
- Investigator & site platform
- Real-time data management
- Digital control room

Digital in Regulatory Affairs

- Automated document generation
- Language translation
- Cloud-based AI to support document management

AI: Artificial intelligence; ML: Machine learning; CMC: Chemistry, manufacturing and control

Improved capabilities and fast execution

Illustration with BTKi ('168)[1]

Phase 1 and 2 conducted 1 year faster than benchmarks

- Data exchange platform (Patient – Site – Sponsor) enabling continuous data exchange
- Home delivery of study drug; leverage of telehealth when possible (visits, performance outcomes, etc.)
- Remote site visits enabling business continuity

Trials maintained during COVID-19
97% of patients are on long-term extension study

Phase 3 studies being launched across the full MS spectrum[2]

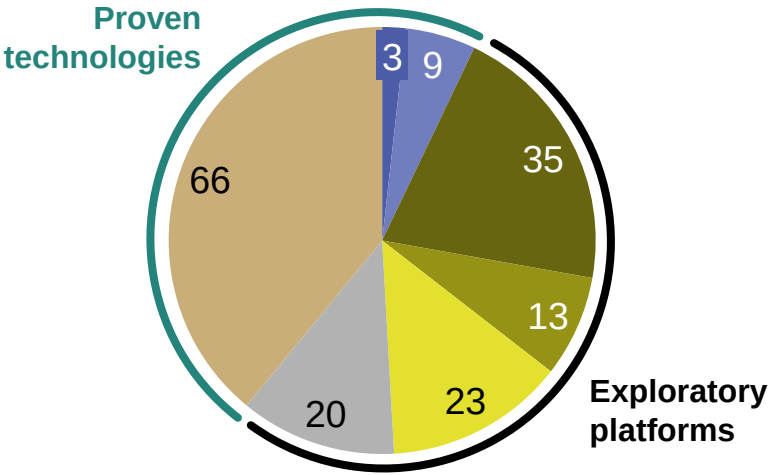
- Planning Phase 3 studies at risk to start as fast as possible (sites pre-identified and on-boarded)
- Control arm size in PPMS reduced to accelerate study completion while maintaining acceptable statistical power
- Optimized study design through early patient and investigator engagement

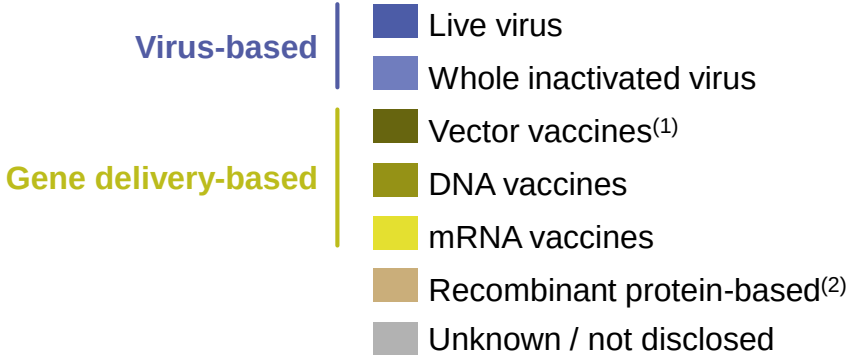
First patient enrolled in RMS trial on June 11, despite pandemic

BTKi: Bruton's tyrosine kinase inhibitor; RMS; Relapsing multiple sclerosis; PPMS: Primary progressive multiple sclerosis; NR-SPMS: Non relapsing secondary progressive multiple sclerosis. (1) Not yet approved by regulators – in collaboration with Principia (2) RMS, PPMS and NR-SPMS

160+ COVID-19 vaccine candidates in development based on multiple technologies

As of June 19, 2020





Half of clinical candidates are based on exploratory vaccine platforms

(1) Includes replicating and non replicating (2) Includes viral proteins, subunits, virus-like particles
Source: Milken Institutes

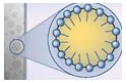
Vaccine platforms: Different safety and efficacy profiles

Technology	Clinical candidates	Efficacy / immune response	Duration of protection	Safety	Established large manufacturing capacity & process
Recombinant protein-based(1)	2	Requires adjuvant and potentially booster dose	Long-lasting immunity (if adjuvanted)	Limited concerns	Yes
mRNA vaccines	3	Unknown, may require several doses	Unknown	Unknown (limited database)	Limited (exception: Translate Bio)
DNA vaccines	1	Unknown, may require several doses	Unknown	Potential integration into DNA; requires electrical stimulation	No existing product
Vector vaccines(2)	2	10-50% of population have pre-existing antibodies to vector	Unknown, booster not possible (due to immunity against vector after first vaccination)	History of enhanced infections rates with selected adenovaccines	No existing product
Whole inactivated virus	4	Requires adjuvant, and potentially several doses	Long-lasting immunity (if adjuvanted)	Risk of VAERD	Yes
Live attenuated virus	0	Induces strong response with single dose	Long-lasting immunity	Complex biosafety measures(3); immuno-depressed patients ineligible	Yes

SANOFI candidates(4)

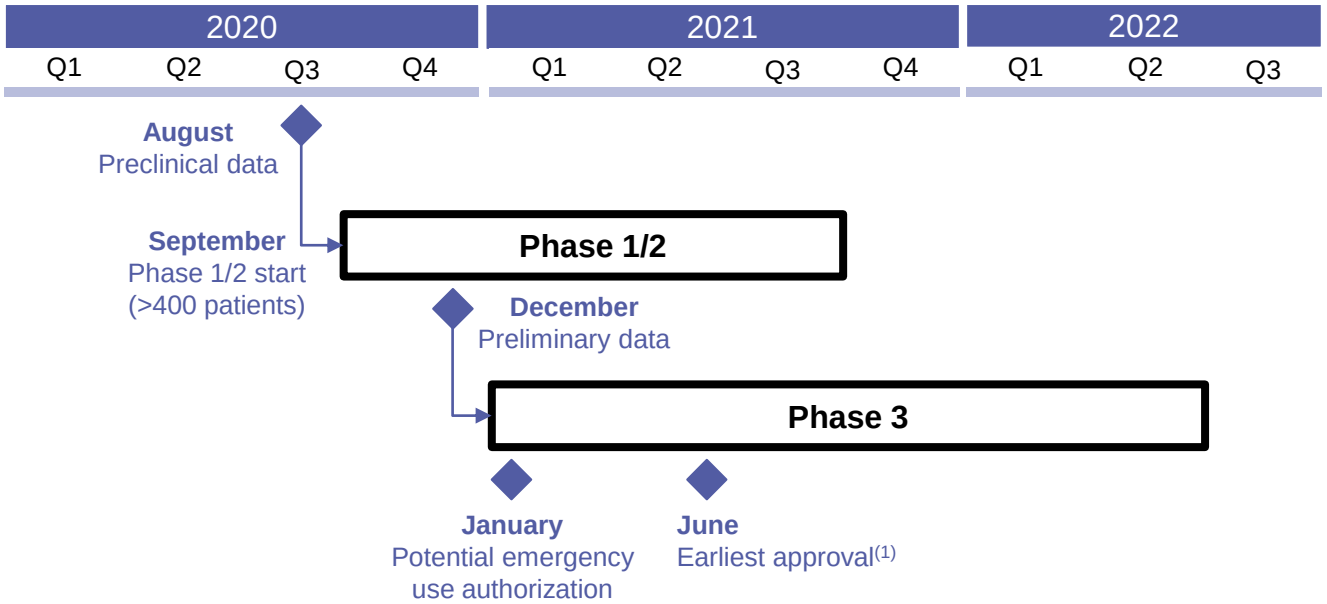
VAERD: Vaccine-associated enhanced respiratory disease
(1) Includes viral proteins, subunits, virus-like particles (2) Includes replicating and non replicating (3) Risks: contamination, reversion to virulence, stability (4) In collaboration with GSK and Translate Bio

Sanofi is developing two complementary vaccines – each with differentiated profile

	1 Recombinant protein-based vaccine (Baculovirus)	2 mRNA vaccine (natural)
Platform	 Protein antigen  Adjuvant	 mRNA  Lipid nanoparticle
Description	• Licensed recombinant platform(1) • Existing large-scale capacity • BARDA collaboration • Collaboration with gsk for proven AS03 adjuvant	• Innovative approach(2) – natural mRNA • Potential for accelerated development • Significant existing investment in mRNA capacity to be applied towards vaccine
Unknowns	• May require booster dose(s)	• Unknown safety risks (potentially differentiated safety profile vs. modified mRNA)
Strengths	• Most de-risked technology • Existing capacities to leverage	• Promising technology • Only established large scale mRNA manufacturing capacity (Translate Bio)

BARDA: Biomedical Advanced Research and Development Authority
(1) Flublok® is manufactured with this platform and licensed in the U.S. (2) In collaboration with Translate Bio

Baculovirus: Accelerated timeline – earliest approval in June 2021



Acceleration levers

Simplification of clinical studies

- Phase 1/2: studying fewer dosages
- Phase 3: selection of adjuvant with highest probability of success

Uncoupling of R&D and industrial timelines

- 'At risk' production of drug substance and drug product

Potential for emergency use authorization (up to 100 million doses in January 2021)

(1) In U.S. and EU; development plans and registration pathway being consolidated with rest of the world

Baculovirus: Aiming for 1 billion doses in 2021

Variables determining number of vaccine doses

Drug substance

- Established capacity within Sanofi and contract manufacturing network
- Production yield and number of batches
- Antigen dose per vaccination

Adjuvant

- Adjuvant manufactured with established gsk pandemic capacity

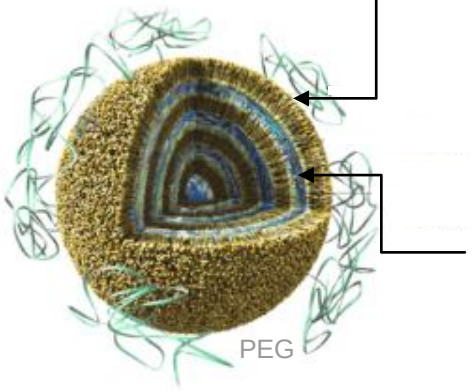
Drug product

- Aiming for 1 billion doses in 2021

Final capacity depending on yield and dosing, multiple levers to maximize it

Sanofi: Differentiated mRNA candidate

Proprietary delivery vehicle achieving desired pharmacokinetics



Proprietary LNP

- Suitable LNP candidate for intra-muscular delivery identified and selected from extensive screening
- Formulation optimization completed with large scale LNP process development underway

Natural mRNA

- Multiple SARS-CoV-2 antigen mRNA constructs identified
- Codon optimized version of naturally occurring mRNA, with no chemically modified nucleotides

Established manufacturing capabilities

- Expertise in mRNA manufacturing developed over 10+ years: scale designed and built for chronic disease products, transferable to vaccine production
- Existing large-scale cGMP manufacturing capacity
  - Ongoing 100-gram single-batch mRNA production; demonstrated 250-gram scale
  - Expected annual capacity of 90-360 million doses

First in Human expected in Q4 2020 and earliest approval in H2 2021

LNP: Lipid nanoparticles; cGMP: current Good manufacturing practice
mRNA candidate in collaboration with Translate Bio

Conclusion: The world needs multiple vaccines – Sanofi is committed to play a key role in fight against COVID-19

- Unprecedented global race to develop vaccines to combat COVID-19 epidemic: >160 vaccine candidates based on established and novel vaccine platforms
- Sanofi develops two complementary vaccines, each with differentiated profile
- Acceleration of Baculovirus vaccine timelines: Phase 1/2 starting in September with >400 patients – potential launch by H1 2021 with up to 1 billion doses capacity
- Potential emergency use authorization by January 2021 with up to 100 million doses of Baculovirus vaccine
- Differentiated mRNA candidate to provide additional capacity (90-360 million doses expected annually), increase overall probability of success and strengthen our capabilities to prepare for future pandemics

Conclusion

John Reed

Global Head of Research & Development

SANOFI

Building our presence in Gene Therapy

Internal pipeline of clinical candidates

- **Initial focus on AAV platform**
  - Experience in Ophthalmology in the clinic
  - Investigating rare and neurological indications
- **Pilot projects on innovative platforms**: 3rd-generation lentivirus in Hemophilia, non-viral DNA delivery, mRNA

Standalone Genomic Medicine Unit

- **Gene Therapy drug discovery unit in Cambridge** (Boston)
  - Vector design
  - Capsid engineering
  - Dedicated capabilities (CMC, Regulatory, Translational Medicine)
- **Expanding with new talents**

In-house bioproduction capabilities

- **Leveraging established capacities at Sanofi**
- **Fully dedicated CMC unit in Boston area**
- **GMP-grade manufacturing for clinical supply in Lyon Gerland**

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AAV: Adeno-associated virus; CMC: Chemistry, manufacturing and control; GMP: Good manufacturing practice

Concrete illustrations of Sanofi's approach to R&D

Platforms **Expanded tools for drug discovery**	**Synthorx** Boosting the impact of cancer immunotherapies by expanding the genetic alphabet
Pathways **Deep understanding of disease pathways**	**Venglustat** Leveraging our knowledge of disease pathways to invent new medicines applicable to multiple disorders
Patients **Relentless patient focus**	**Fitusiran & BIVV001(1)** Turning cutting-edge protein engineering and new modalities into innovative patient offerings
Capabilities **Leveraging expanding capabilities**	**COVID-19** Applying our scale and broad platforms to battle a global health crisis

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(1) In collaboration with Sobi

Key milestones for priority molecules

Dupixent®(1)	Pivotal results in Asthma 6-11years old	H2 2020
	Pivotal results in PN and CSU	H2 2021
Fitusiran & BIVV001(2)	Fitusiran & BIVV001 pivotal results in Hem A/B & Hem A	H1/H2 2021
SERD '859	Proof of Concept in combination with CDK4/6i and adjuvant BC	H2 2020
Venglustat	Proof of Concept in GBA-PD	H1 2021
Nirsevimab(3)	Phase 2b data to be presented at dedicated Sanofi event	H2 2020
BTKi '168(4)	First patient in for all Phase 3 studies	H2 2020

PN: Prurigo nodularis; CSU: Chronic spontaneous urticaria; CDK: Cyclin-dependent kinase; BC: Breast cancer; PD: Parkinson disease; Hem: Hemophilia; PoC: Proof of concept, clinical and commercial evidence to initiate pivotal study
(1) In collaboration with Regeneron (2) In collaboration with Sobi (3) In collaboration with AstraZeneca (4) In collaboration with Principia

Upcoming milestones

☆ Priority assets

	H2 2020	H1 2021	H2 2021		FY 2022	
Regulatory decision *(Unless specified otherwise, indicates first potential approval in the U.S. or EU)*	**Sutimlimab** Cold agglutinin disease	**Sarclisa®** Refractory MM	**Libtayo®(1)** 2L BCC	**Dupixent®(1)** Asthma 6-11yo ☆	**Sarclisa®** 1L ND-MM Ti (IMROZ)	**Dupixent®(1)** Chronic spontaneous urticaria ☆
	Flublok® EU approval	**Baculovirus Recomb. Vx** COVID-19	**Libtayo®(1)** 1L NSCLC monotherapy	**mRNA Vaccine** COVID-19	**SERD '859** 2L-3L monotherapy BC ☆	**Olipudase alfa** Niemann-Pick type B
		MenQuadfi™ ≥12 months EU approval	**Avalglucosidase alfa** Pompe disease		**Dupixent®(1)** Prurigo nodularis ☆	**Fitusiran** Hemophilia A/B ☆
		Shan 6 DCGI license			**Libtayo®(1)** 1L NSCLC in combo with CT	**Shan 6** WHO pre-qualification
Submission	**Sarclisa®** Refractory MM (IKEMA)	**Dupixent®(1)** Asthma 6-11yo ☆	**Olipudase alfa** Niemann-Pick type B	**Dupixent®(1)** Prurigo nodularis ☆	**Dupixent®(1)** Chronic spontaneous urticaria ☆	**Dupixent®(1)** AD 6mo-5yo ☆
	Libtayo®(1) 1L NSCLC monotherapy	**Baculovirus Recomb. Vx** COVID-19	**Fitusiran** Hemophilia A/B ☆	**mRNA Vaccine** COVID-19	**Anti-CEACAM5 '701** 2/3L NSCLC monotherapy (LC03)	**Dupixent®(1)** Eosinophilic esophagitis ☆
	Libtayo®(1) 2L BCC		**SERD '859** 2L-3L monotherapy BC ☆		**Venglustat** ADPKD ☆	**Dupixent®(1)** Bullous pemphigoid ☆
	Avalglucosidase alfa Pompe disease		**Libtayo®(1)** 1L NSCLC in combo with CT		**BIVV001(2)** Hemophilia A ☆	**Libtayo®(1)** 2L Cervical cancer
	Shan 6 DCGI submission				**Sarclisa®** 1L ND-MM Ti (IMROZ)	
Pivotal results	**Dupixent®(1)** Asthma 6-11yo ☆	**Fitusiran** Hemophilia A/B ☆	**Libtayo®(1)** 1L NSCLC in combo with CT	**BIVV001(2)** Hemophilia A ☆	**Venglustat** ADPKD ☆	**Dupixent®(1)** Eosinophilic esophagitis ☆
		SERD '859 2L-3L monotherapy BC ☆	**Dupixent®(1)** Prurigo nodularis ☆	**Sarclisa®** 1L ND-MM Ti (IMROZ)	**Anti-CEACAM5 '701** 2/3L NSCLC monotherapy (LC03)	**Dupixent®(1)** Bullous pemphigoid
			Dupixent®(1) Chronic spontaneous urticaria ☆	**Libtayo®(1)** 2L Cervical cancer	**Dupixent®(1)** AD 6mo-5yo ☆	**Nirsevimab(4)** RSV ☆
					VerorabVax® Rabies	
Proof of Concept	**SERD '859** 1L mBC in combo with CDK4/6i ☆	**SHP2 '720(3)** Solid tumors	**T-cell eng. CD3/CD123 '234** Acute myeloid leukemia	**SERD '859** 2L mBC in combo with Pi3Ki ☆	**Anti-CEACAM5 '701** 2/3L NSCLC with ramucirumab	**aCD38 mAb Fc '085** Multiple myeloma
	SERD '859 Adjuvant BC ☆	**ST400(6)** Beta thalassemia	**TGFb '459** NSCLC, MM, CRC, MuC	**Sarclisa®** Kidney transplant	**Anti-CEACAM5 '701** 1L NSCLC in combo with PD-1	**miRNA-21 '375** Alport syndrome
		BIVV003(6) Sickle cell disease	**Sarclisa®** Peripheral T-cell lymphoma	**Sarclisa®** SC formulation	**THOR-707** Monotherapy in Solid tumors	**Fluzone®** HD QIV pediatrics
		Venglustat GBA-PD ☆	**BIVV020** Cold agglutinin disease		**SKYPAC (PCV)(5)** Pneumococcal	**RSV active immunization** RSV

AD: Atopic dermatitis; BC: Breast cancer; PD: Parkinson disease; m: metastatic; ADPKD: Autosomal dominant polycystic kidney disease; BCC: Basal cell carcinoma; NSCLC: Non-small-cell lung carcinoma; NDMM: Newly diagnosed multiple myeloma; SC: Subcutaneous; MM: Metastatic melanoma; CRC: Colorectal cancer; MuC: Metastatic urothelial carcinoma; MM: Multiple myeloma; DCGI: Drug Controller General of India; WHO: World Health Organization

(1) In collaboration with Regeneron (2) In collaboration with Sobi (3) In collaboration with Revolution Medicines (4) In collaboration with AstraZeneca (5) In collaboration with SK (6) In collaboration with Sangamo

Sanofi positioned to deliver the next-generation of medicines and vaccines

Platforms

- **Unique blend of cutting-edge technologies**
- **Demonstrated platforms:** Nano-bodies®, Multispecifics, Antibody Drug Conjugates, Vaccines…
- **Exploratory platforms:** Synthorins, mRNA, Gene Therapy…

Pathways

- **Advancing human immunology** across multiple areas of high unmet need
- **Pioneering history in monogenic disorders**
- **Bringing Sanofi's heritage in LSD beyond rare diseases**

Patients

- **Connecting with patients through digital technologies**
- **Breaking the barriers of today's standard of care**
- **Leveraging real world evidence** to make a real difference in patient day-to-day lives

Expanding capabilities

- **Digital R&D**
- **Faster Clinical Operations**

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LSD: Lysosomal storage disease

Everything begins and ends with the patient


Hajib | **Gaucher Disease** | Pakistan


Michael | **Kidney Transplant** | U.S.


Shannae | **MPS** I | Australia


Tucker | **Hemophilia B** | U.S.


James | **Prostate Cancer** | U.S.


Nancy | **AD** | U.S.


Sami | **Pompe** | Palestine


Grethe | **Multiple Sclerosis** | Denmark


Heather | **aTTP** | U.S.


Gary | **CAD** | U.S.


Laurie | **RA** | Canada

MPS: Mucopolysaccharidosis; AD: Atopic Dermatitis; aTTP: Acquired thrombotic thrombocytopenic purpura; CAD: Cold agglutinin disease; RA: Rheumatoid arthritis

Q&A session 2

Paul Hudson
Chief Executive Officer

John Reed
Global Head of R&D

Jean-Baptiste de Chatillon
Chief Financial Officer

Bill Sibold
Global Head of Sanofi Genzyme

Thomas Triomphe
Global Head of Sanofi Pasteur

Dietmar Berger
Global Head of Development

Yong-Jun Liu
Global Head of Research

Marcos Milla
Chief Scientific Officer, Synthorx

Karin Knobe
TA Head, RD and RBD Development

Pablo Sardi
TA Head, RND Research

Robert Peters
TA Head, RBD Research

Vanessa Wolfeler
Global Franchise Head, RBD

Shannon Resetich
Global Franchise Head, RD

John Shiver
Global Head of R&D, Sanofi Pasteur

RD: Rare Diseases; RBD: Rare Blood Disorders; RND: Rare and Neurologic Diseases; TA: Therapeutic area

R&D Investor Event

Appendices

June 23, 2020

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R&D Pipeline – New Molecular Entities(*)

Phase 1
(Total : 21)

SAR441344(**)(1)
Anti-CD40L mAb
Multiple Sclerosis

SAR439459, mono & with cemiplimab(**)(11), anti-TGFb mAb
Advanced Solid Tumors

O **REGN5458**(**)(2)
Anti-BCMAxCD3 bispecific mAb
Relapsed Refractory MM

O **REGN4018**(**)(2)
Anti-MUC16xCD3 bispecific mAb
Ovarian Cancer

SAR442720(**)(3)
SHP2 inhibitor
Solid Tumors

SAR440234
T cell engaging multi specific mAb
Leukemia

SAR441000(**)(4), mono & with PD1,
Cytokine mRNA
Solid tumors

SAR442085
Anti CD38 mAb Fc engineered
Multiple Myeloma

O **REGN5459**(**)(2)
Anti-BCMAxCD3 bispecific mAb
Relapsed Refractory MM

SAR444245 (THOR-707), mono & combo, Non-alpha IL-2
Solid tumors

SAR442257
Anti-CD38xCD28xCD3 trispecific mAb, MM / N-H Lymphoma

ST400(**)(5)
Ex Vivo ZFN Gene-Edited Cell Therapy, Beta thalassemia

BIVV003(**)(5)
Ex Vivo ZFN Gene-Edited Cell Therapy, Sickle Cell Disease

BIVV020
Complement C1s inhibitor

SAR443060(**)(6)
RIPK1 inhibitor(7)
Amyotrophic Lateral Sclerosis

SAR443122(**)(6)
RIPK1 inhibitor(7)
Inflammatory indications

SAR441169(**)(8)
RORC (ROR gamma T) antagonist,
Psoriasis

SAR441236
Tri-specific neutralizing mAb
HIV

Next Gen PCV(**)(9)
Pneumococcal Conjugate
Vaccines

Herpes Simplex Virus Type 2(**)(10)
HSV-2 therapeutic vaccine

Respiratory syncytial virus
Infants 4-month and older
Vaccines

Phase 2
(Total : 5)

SAR440340(**)(11)
Anti-IL33 mAb
COPD

romilkimab
Anti-IL4/IL13 bispecific mAb
Systemic Scleroderma

R **olipudase alfa**
rhASM
ASMD(12) ad+ped

R **SAR439859**
SERD
Metastatic Breast Cancer 2/3L

SAR339375
miRNA-21
Alport Syndrome

Phase 3
(Total : 7)

SAR442168(**)(13)
BTK inhibitor
Multiple Sclerosis

avalglucosidase alfa
Neo GAA
Pompe Disease

venglustat
Oral GCS inhibitor
ADPKD(14)

fitusiran
RNAi targeting anti-thrombin
Hemophilia A and B

BIVV001(**)(15)
rFVIIIFc – vWF – XTEN(16)
Hemophilia A

nirsevimab(**)(17)
Respiratory syncytial virus
Monoclonal Antibody

SAR408701
Maytansin-loaded anti-CEACAM5
mAb, NSCLC 2/3L

Registration
(Total : 2)

SAR341402 (insulin aspart)
Rapid acting insulin
Type 1/2 Diabetes (EU)

sutimlimab
Anti Complement C1s mAb
Cold Agglutinin Disease

R Registrational Study (other than Phase 3)

O Opt-in rights products for which rights have not been exercised yet

- Immuno-inflammation
- Oncology
- Rare Diseases
- Rare Blood Disorders
- MS & Neuro
- Diabetes
- Cardiovascular & metabolism
- Vaccines

(1) Developed in collaboration with Immunext
(2) Regeneron product for which Sanofi has opt-in rights
(3) Developed in collaboration with Revolution Medicines
(4) Developed in collaboration with BioNTech
(5) Developed in collaboration with Sangamo
(6) Developed in collaboration with Denali
(7) Receptor-interacting serine/threonine-protein kinase 1
(8) Developed in collaboration with Lead Pharma
(9) Developed in collaboration with SK
(10) Developed in collaboration with Immune Design/Merck
(11) Developed in collaboration with Regeneron
(12) Acid Sphingomyelinase Deficiency also known as Niemann Pick type B
(13) Developed in collaboration with Principia
(14) Autosomal Dominant Polycystic Kidney Disease
(15) Developed in collaboration with Sobi
(16) Recombinant Coagulation Factor VIII Fc – von Willebrand Factor – XTEN Fusion protein
(17) Developed in collaboration with AstraZeneca
(*) Phase of projects determined by clinicaltrials.gov disclosure timing when relevant
(**) Partnered and/or in collaboration – Sanofi may have limited or shared rights on some of these products

mono = monotherapy; mAb = monoclonal antibody; RRMM = Relapsed Refractory Multiple Myeloma;; GCS = glucosylceramide synthase; N-H Lymphoma = Non-Hodgkin Lymphoma

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Additional Indications(*)

Phase 1 (Total : 6)

- [O] **cemiplimab(**)(1) + REGN4018(**)(2)** — Ovarian Cancer
- **SAR439859 + palbociclib(3)** — Metastatic Breast Cancer
- **sutimlimab** — Immune Thrombocytopenic Purpura
- **SAR442720(**)(4) + cobimetinib** — Relapsed Refractory solid tumors
- **SAR443060(**)(5)** — Multiple sclerosis
- **Yellow Fever** — Vaccine (Vero cell)

Phase 2 (Total : 18)

- **dupilumab(**)(1)** — Grass pollen allergy
- [R] **sarilumab(**)(1)** — Polyarticular Juvenile Idiopathic Arthritis
- [R] **sarilumab(**)(1)** — Systemic Juvenile Arthritis
- **SAR440340(**)(1)** — Asthma
- **dupilumab(**)(1)** — Peanut Allergy
- [R] **cemiplimab(**)(1)** — 2-L Basal Cell Carcinoma
- **SAR439859** — Breast Cancer adjuvant
- **isatuximab** — 1-2L AML / ALL pediatrics
- **isatuximab** — patients awaiting kidney transplantation
- **isatuximab + cemiplimab(**)(1)** — Relapsed Refractory MM
- **isatuximab + cemiplimab(**)(1)** — Lymphoma
- **isatuximab + atezolizumab(6)** — mCRC
- **isatuximab + atezolizumab(6)** — Solid Tumors
- **SAR408701 + ramucirumab** — NSCLC 2/3L
- **venglustat** — Fabry Disease
- **venglustat** — Gaucher Type 3
- **venglustat** — GBA-PD(7)
- **SP0173** — Tdap booster US

Phase 3 (Total : 25)

- **Dupixent®(**)(1)** — Asthma 6 - 11 years old
- **dupilumab(**)(1)** — Eosinophilic Esophagitis
- **Dupixent®(**)(1)** — AD 6 months - 5 years old
- **dupilumab(**)(1)** — COPD
- **dupilumab(**)(1)** — Bullous pemphigoid
- **dupilumab(**)(1)** — Chronic spontaneous urticaria
- **dupilumab(**)(1)** — Prurigo nodularis
- **sarilumab(**)(1)** — Giant Cell Arteritis
- **sarilumab(**)(1)** — Polymyalgia Rheumatica
- **cemiplimab(**)(1)** — 1L NSCLC
- **cemiplimab(**)(1)+ chemotherapy** — 1L NSCLC
- **cemiplimab(**)(1)** — 2L Cervical Cancer
- **cemiplimab(**)(1)** — adjuvant in CSCC
- **isatuximab** — Newly Diag. MM Te(8) (GMMG)
- **isatuximab** — 2L RRMM (IKEMA)
- **isatuximab** — 1L Newly Diag. MM Ti(9) (IMROZ)
- isatuximab — Smoldering multiple myeloma
- **Lemtrada®** — Relapsing Remitting MS - Pediatric
- **Cerdelga®** — Gaucher T1, ERT switch Pediatric
- **venglustat** — GM2 gangliosidosis
- **Praluent® (**)(1)** — LDL-C reduction - Pediatric
- **MenQuadfi™** — 6w+ (US / EU)
- **Shan 6** — Pediatric hexavalent vaccine
- **VerorabVax® (VRVg)** — Purified vero rabies vaccine
- **fitusiran** — Hemophilia A and B pediatric

Registration (Total : 3)

- **MenQuadfi™** — U.S. 2y+ , EU 1y+
- **Dupixent®(**)(1)** — AD 6 – 11 years old (U.S., EU)
- **Aubagio®** — Relapsing MS – Pediatric

[R] Registrational study (other than Phase 3)

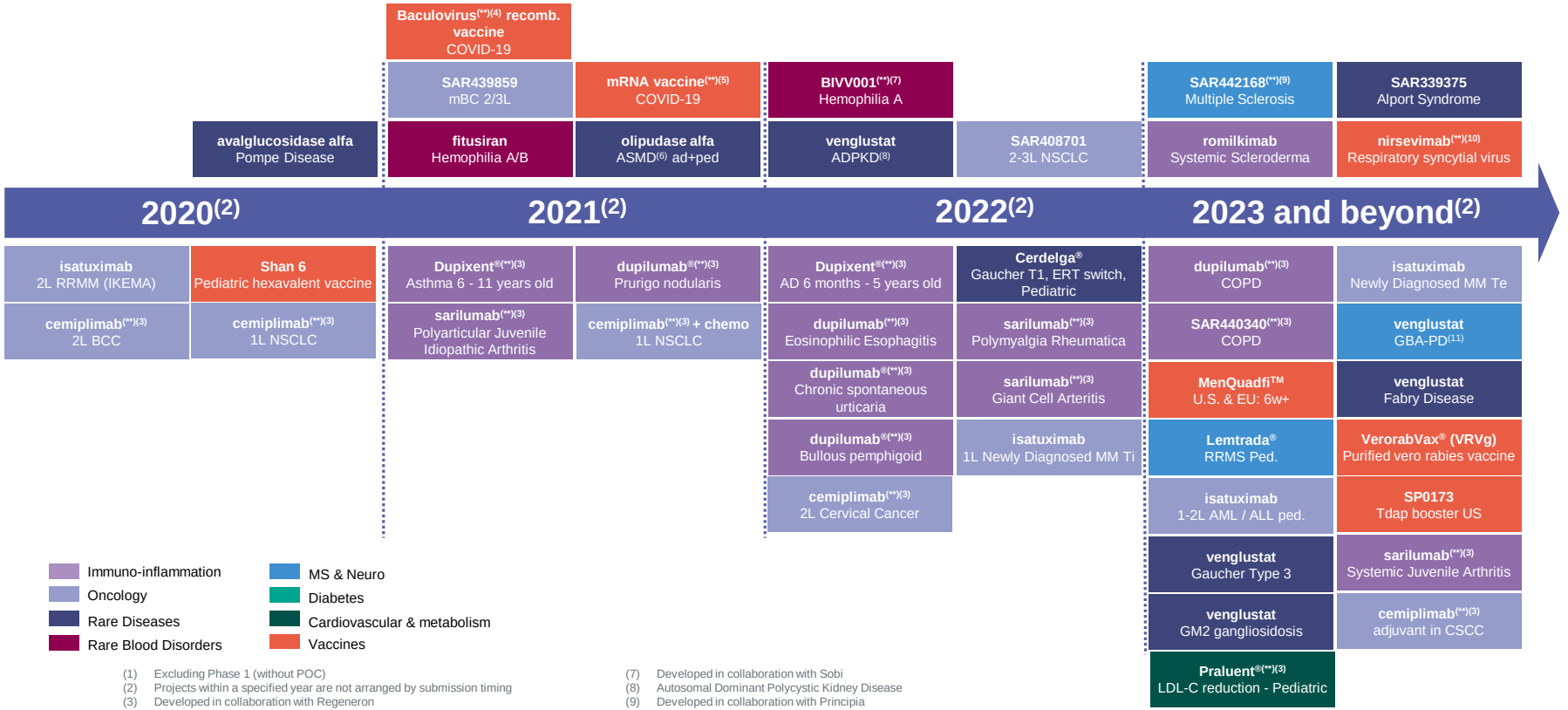
[O] Opt-in rights products for which rights have not been exercised yet

(1) Developed in collaboration with Regeneron
(2) Regeneron product for which Sanofi has opt-in rights
(3) Pfizer product (palbociclib)
(4) Developed in collaboration with Revolution Medicines – cobimetinib is a Genentech product
(5) Developed in collaboration with Denali
(6) Studies in collaboration with Genentech Inc. (atezolizumab)
(7) Parkinson's Disease with an associated GBA mutation
(8) Transplant eligible
(9) Transplant ineligible
(*) Phase of projects determined by clinicaltrials.gov disclosure timing when relevant
(**) Partnered and/or in collaboration - Sanofi may have limited or shared rights on some of these products

COPD = chronic obstructive pulmonary disease; AML = acute myeloid leukemia; ALL = acute lymphoblastic leukemia; MM = multiple myloma;; RRMS = Relapsing / Remitting Multiple Sclerosis

- Immuno-inflammation
- Oncology
- Rare Diseases
- Rare Blood Disorders
- MS & Neuro
- Diabetes
- Cardiovascular & metabolism
- Vaccines

Expected submission timeline(1)



(1) Excluding Phase 1 (without POC)
(2) Projects within a specified year are not arranged by submission timing
(3) Developed in collaboration with Regeneron
(4) (Developed in collaboration with GSK and with funding from Biomedical Advanced Research and Development Authority (BARDA)
(5) Developed in collaboration with Translate Bio
(6) Acid Sphingomyelinase Deficiency
(7) Developed in collaboration with Sobi
(8) Autosomal Dominant Polycystic Kidney Disease
(9) Developed in collaboration with Principia
(10) Developed in collaboration with AstraZeneca
(11) Parkinson's Disease with an associated GBA mutation
(**) Partnered and/or in collaboration – Sanofi may have limited or shared rights on some of these products

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Pipeline movements since Q1 2020

	Additions / Moves	Removals from Sanofi pipeline
Registration	sutimlimab Anti Complement C1s mAb Cold Agglutinin Disease Aubagio® Relapsing MS – Pediatric	
Phase 3	SAR442168(**)(1) BTK inhibitor Multiple Sclerosis	Pediatric pentavalent vaccine(**)(2) Japan
Phase 2	SAR408701 + ramucirumab NSCLC 2/3L	
Phase 1	SAR442257 Anti-CD38xCD28xCD3 trispecific mAb, MM / N-H Lymphoma	

(1) Developed in collaboration with Principia
(2) Developed in collaboration with Daiichi Sankyo previously KDSV
(**) Partnered and/or in collaboration – Sanofi may have limited or shared rights on some of these products
MM = Multiple Myeloma; N-H Lymphoma = Non-Hodgkin Lymphoma