Ascendis Pharma A/S

39th Annual J.P. Morgan Healthcare Conference
January 11, 2021

All product candidates are investigational. For investor communication only. Not for use in promotion or product commercialisation.

Cautionary Note On Forward-Looking Statements

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, such as statements regarding our future results of operations and financial position, including our business strategy, prospective products, availability of funding, clinical trial results, product approvals and regulatory pathways, collaborations, licensing or other arrangements, the scope, progress, results and costs of developing our product candidates or any other future product candidates, the potential market size and size of the potential patient populations for our product candidates, timing and likelihood of success, plans and objectives of management for future operations, the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates, future results of current and anticipated products, and the future operations of VISEN Pharmaceuticals are forward-looking statements. These forward-looking statements are based on our current expectations and beliefs, as well as assumptions concerning future events. These statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to differ materially from the results discussed in the forward-looking statements. These risks, uncertainties and other factors are more fully described in our reports filed with or submitted to the Securities and Exchange Commission, including, without limitation, our most recent Annual Report on Form 20-F filed with the SEC on April 3, 2020 particularly in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations”. In light of the significant uncertainties in our forward-looking statements, you should not place undue reliance on these statements or regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all.

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Company Overview

- Create best-in-class products addressing unmet medical needs by applying TransCon™ technologies to parent drugs with clinical proof-of-concept or clinically validated pathways
- Endocrinology rare disease
  - TransCon hGH:
    - Pediatric growth hormone deficiency (GHD): BLA and MAA submitted, phase 3 trials in China[1] ongoing and Japan initiated
    - Adult GHD: Global phase 3 foresiGHt Trial ongoing
  - TransCon PTH: Adult hypoparathyroidism (HP) phase 3 PaTHway Trial in North America and Europe ongoing
  - TransCon CNP: Achondroplasia phase 2 trials: ACcomplisH Trial ongoing and ACcomplisH China Trial[1] initiated
- Oncology
  - TransCon TLR7/8 Agonist: IND filed
  - TransCon IL-2 β/γ: IND filing or similar expected in Q3 2021
- As of September 30, 2020, cash, cash equivalents and marketable securities of €957.5 million

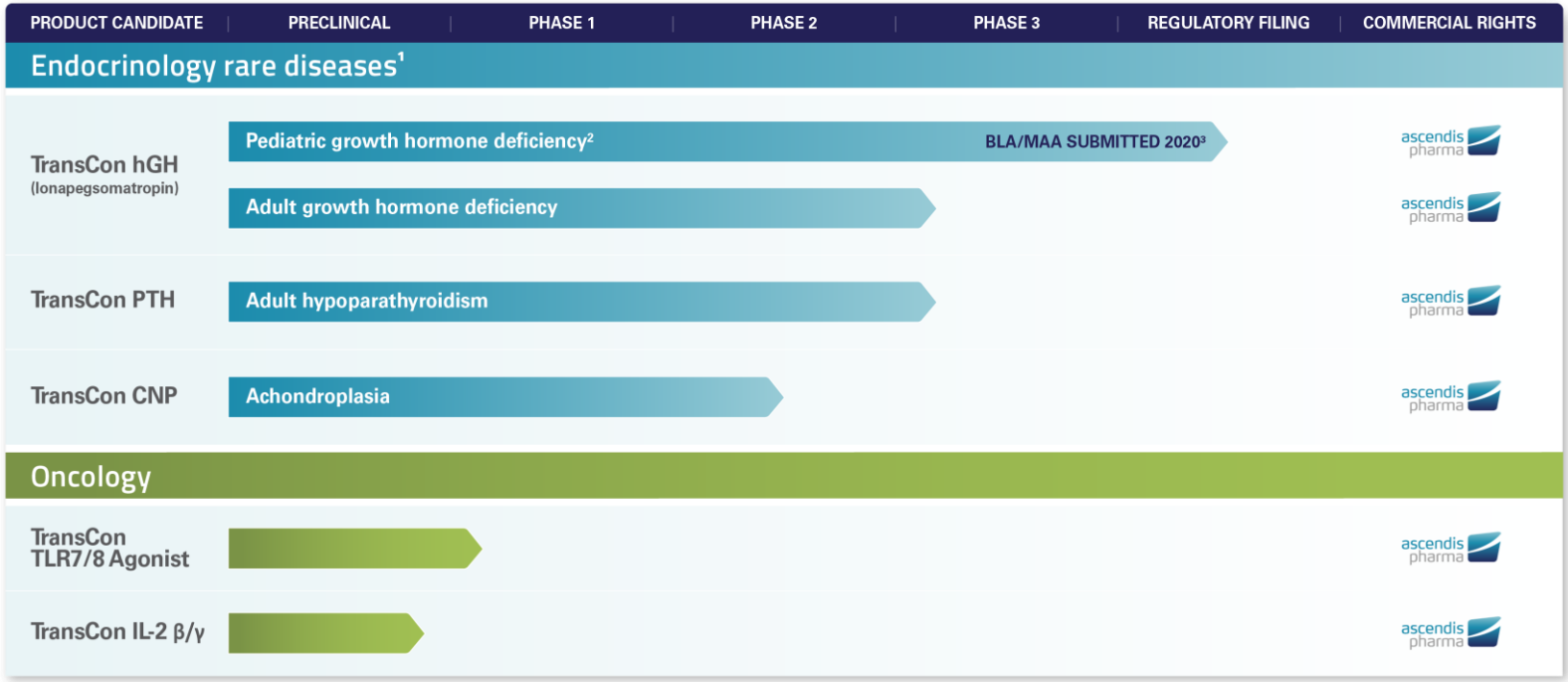
[1] Conducted by VISEN Pharmaceuticals.
BLA = Biologics License Application. MAA = Marketing Authorisation Application.

Vision 3x3: Building a Leading BioPharma Company

Our Goal is to Achieve Sustainable Growth through Multiple Approaches

- Obtain regulatory approval for three independent Endocrinology Rare Disease products
  - TransCon hGH for pediatric growth hormone deficiency
  - TransCon PTH for adult hypoparathyroidism
  - TransCon CNP for achondroplasia
- Grow Endocrinology Rare Disease pipeline through
  - Global clinical reach
  - Pursuing 9 total indications, label optimization, and life cycle management
  - New endocrinology products
- Establish global commercial presence for our Endocrinology Rare Disease area
  - Build integrated commercial organization in North America and select European countries
  - Establish global commercial presence through partners with local expertise and infrastructure
- Advance a high value oncology pipeline with one IND or similar filing each year
- Create a third independent therapeutic area with a diversified pipeline

Diverse Pipeline of Independent Product Candidates



[1]Excludes rights granted to VISEN Pharmaceuticals in Greater China.
[2]In phase 3 development for pediatric growth hormone deficiency in Greater China through strategic investment in VISEN Pharmaceuticals.
[3]US PDUFA June 25, 2021.

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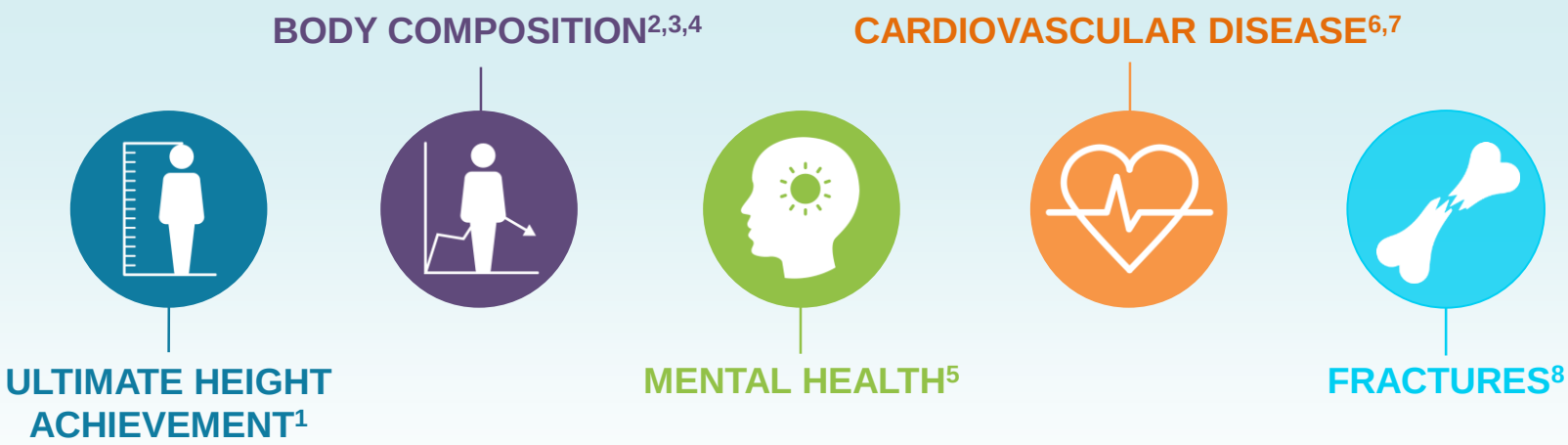
Endocrinology Rare Disease

TransCon hGH: Once-Weekly Replacement Therapy

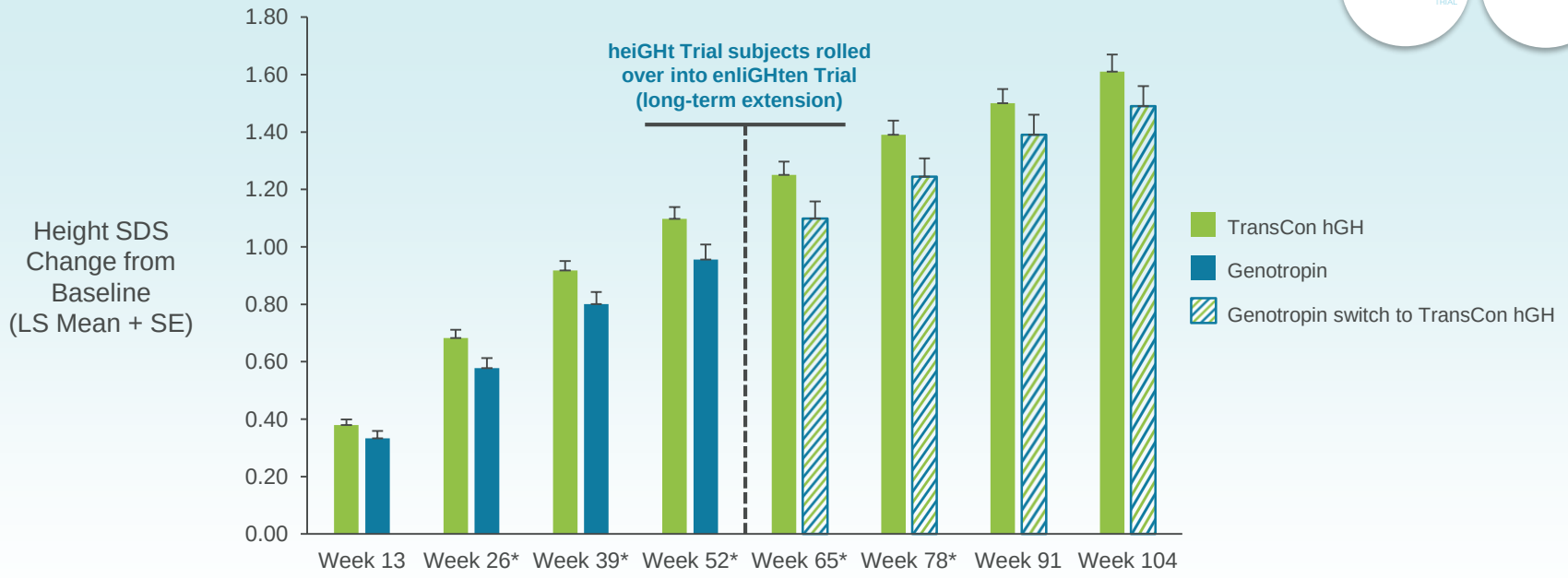
Growth Hormone Supports Overall Endocrine Health



Daily hGH addresses all the symptoms of the disease; long-acting growth hormone products must retain the properties of hGH to adequately address the totality of the disease

[1]de Boer, H. et al. *J. Clin. Endocrinol. Metab.* 1997; 82(7): 2032-2036. [2]Rutherford, O. M. et al. *Clin. Endocrinol* 1991; 34(6): 469-475. [3]Colle, M., J. Auzerie. *Horm. Res.* 1993; 39(5-6): 192-196. [4]Johannsson, G., et al. *J. Clin. Endocrinol. Metab.* 1999; 84(12): 4516-4524. [5]Stabler, B. et al. *Horm. Res.* 1996; 45(1-2) 30-33 [6]Leonga, G., Johannsson, G. *Horm. Res.* 2003; 60(suppl1): 78-85 [7]Colao, A. et al. *J. Clin. Endocrinol. Metab.* 2002; 87(8): 3650-3655. [8]Bex, M., Bouillon, R. *Horm. Res.* 2003; 60(suppl3): 80-86.

Pediatric GHD Patients Continue Approaching Normal Height



Children initially treated with TransCon hGH maintained an advantage in height SDS improvement

*Denotes treatment difference resulted in a nominal P value < 0.05.
Maniatis A et al. Oral presentation at ENDO 2020 and Data on file.

Key Learnings from TransCon hGH Pediatric Clinical Trials

- TransCon hGH demonstrated a safety profile comparable to that of a daily hGH[1]
- TransCon hGH demonstrated superior AHV[2] compared to a daily hGH with a PK profile[2] of released hGH that may lead to more efficient utilization by target tissues
- Data suggest hGH released from TransCon hGH maintains the same mode of action as daily hGH and preserves the biological balance between hGH and IGF-1 effects[1,2,3,4]
  - TransCon hGH and a daily hGH demonstrated similar relationship between change in height SDS and change in average IGF-1 SDS[3,4,5]
  - TransCon hGH showed predictable linear IGF-1 response to dose titrations[5]
- TransCon hGH demonstrated consistent safety and efficacy profile following switch from daily hGH in both fliGHt and enliGHten trials[1]

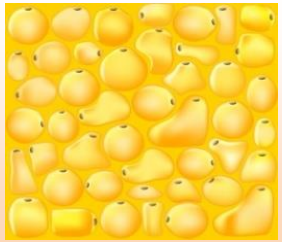
[1]Maniatis A et al. Oral presentation at ENDO 2020.
[2]Thornton P, et al. Oral presentation at ENDO 2019.
[3]Chatelain P, et.al. *J Clin Endocrinol Metab* 2017, 102(5): 1673 – 1682.
[4]Vlachopapadopoulou et al. Oral presentation at ESPE 2019.
[5]Data on file.

Impact of Growth Hormone Distribution

TransCon hGH is designed to release hGH to achieve the same tissue distribution and receptor activation in the body as daily hGH, with once-weekly administration

BONE

Optimal growth achieved *via* direct stimulation of GH receptors in bone and through IGF-1[1]

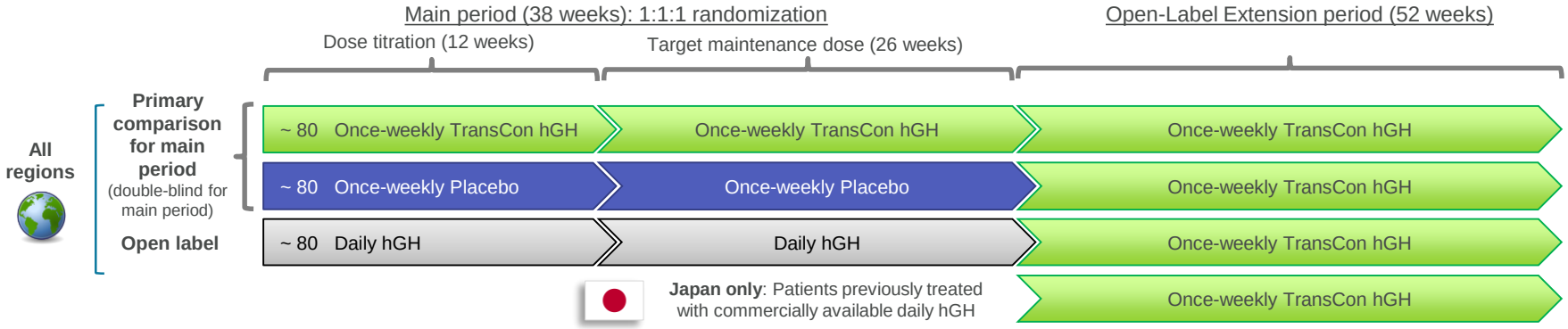


ADIPOSE TISSUE

hGH directly stimulates the breakdown of fat[1]

[1]Kaplan SA, Cohen P. *J Clin Endocrinol Metab*. 2007;92(12):4529-4535.

Adult GHD Global Phase 3 ForesiGHt Trial Design



Primary Objective: Demonstrate efficacy compared to placebo

Endpoints

- **Primary**: Change from baseline in trunk % fat at 38 weeks
- **Secondary**: Change from baseline in trunk fat mass (kg) and total body lean mass (kg) at 38 weeks
- **Exploratory**: Total body fat mass, trunk lean mass, visceral adipose tissue, total body bone mineral content and density, TRIM-AGHD, PGIS, and EQ-5D-5L scores
- **Safety**: AEs, labs, vital signs, anti-drug antibodies, ECGs, fundoscopy
- **PK/PD**: hGH, lonapegsomatropin, mPEG, IGF-1, IGFBP-3

Key Eligibility Criteria for Main Period Enrollment (All Regions)

- Adults and older adults with AGHD
- Ages 23 – 75 years
- GH treatment-naïve or no GH therapy in past 12 months
- IGF-1 SDS ≤ -1.0 at screening

Global: Europe, North America, Asia (including Japan and China*)

*Conducted by VISEN Pharmaceuticals.

TransCon hGH: New Paradigm for Growth Hormone Treatment

- In the phase 3 heiGHt Trial, TransCon hGH demonstrated superior AHV (P = 0.009) with a comparable safety and tolerability profile compared to a daily hGH[1]
- In pediatric GHD, submitted BLA June 2020 and MAA September 2020 (including Auto-Injector):
  - FDA mid-cycle call held in December 2020, no advisory committee expected, PDUFA June 25, 2021
  - EMA MAA process and review underway, day 120 questions expected end of January
  - Received orphan designation in United States and Europe for GHD
  - PIP approved for children from 6 months to less than 18 years
- Global reach and label expansion:
  - China: Pediatric GHD phase 3 ongoing*
  - Japan: Pediatric GHD phase 3 riGHt Trial, Clinical Trial Notification (CTN) filed Q3 2020
  - Adult GHD: Ongoing global phase 3 foresiGHt Trial, complete enrollment expected by late 2021 or early 2022
- Commercial manufacturing ongoing
- Multiple independent patent filings to provide potential IP protection into 2039

[1]Thornton P, et al. Oral presentation at ENDO 2019.
*Conducted by VISEN Pharmaceuticals.

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TransCon PTH:
PTH Replacement Therapy for Hypoparathyroidism

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Hypoparathyroidism

Short-term Symptoms[1]

Hypocalcemia
Paresthesias, muscle cramps, tetany, laryngospasm, seizures, coma

Brain fog

Anxiety due to "fear of crash"

Hypercalcemia
Nocturia, polyuria, constipation, muscle weakness, coma

Patient Burden[2,3]

76%
Either unable to work or report significant interference with work due to HP symptoms

79%
Require hospitalizations or emergency department visits

85%
Report inability to perform household activities

Long-term Complications[4-6]

4-fold
Increased risk of renal disease (nephrocalcinosis, nephrosclerosis, kidney stones & renal insufficiency)

2-fold
Increased risk of depression or bipolar disorder

4-fold
Increased risk of seizures

[1] *Nat Rev Dis Primers* 2017 Aug 31;3:17055 [2]Ascendis Pharma HP Patient Experience Research. [3]*Endo Pract.* 2014, 20(7);671-679. [4] *J Bone Miner Res* 2013, 28: 2570-2576; [5]*J Clin Endocrinol Metab* 2012, 97(12): 4507-4514. [6]*J Bone Miner Res* 2013, 28: 2277-2285.

Chronic Hypoparathyroidism: Significant Patient Population

Estimated Prevalence: ~200k in these 4 regions

USA

~70k – 112k

- 2013, Powers et. al., Prevalence and Incidence of Hypoparathyroidism in the United States Using a Large Claims Database, JBMR
- 2011, Clarke et. al., Co-morbid Medical Conditions Associated with Prevalent Hypoparathyroidism: A Population-Based Study

Europe

~86k – 223k

- 2013, Underbjerg et. al., Cardiovascular and Renal Complications to Postsurgical Hypoparathyroidism: A Danish Nationwide Controlled Historic Follow-up Study
- 2015, The Epidemiology of Nonsurgical Hypoparathyroidism in Denmark: A Nationwide Case Finding Study
- 2016, Astor et. al., Epidemiology and Health-Related Quality of Life in Hypoparathyroidism in Norway

Japan

~25k – 32k

- 2017. Shishiba et. al., Prevalence of postsurgical hypoparathyroidism in Japan: Estimated from the data of multiple institutes
- 1999. Nakamura et. al., Prevalence of Idiopathic Hypoparathyroidism and Pseudohypoparathyroidism in Japan
- Ascendis market research

South Korea

~12k – 13k

- S. Korean ICD-10 codes
- Ascendis market research

TransCon PTH Phase 2 Trial Design

PaTHforward TRIAL

59 adult subjects with HP currently receiving standard of care (active vitamin D + calcium); 1:1:1:1 randomization

Primary Composite Endpoint (4 weeks)

Proportion of subjects with:

- Normal serum calcium; ***and***
- Normal FECa (or at least 50% decrease from baseline); ***and***
- Off active vitamin D; ***and***
- Taking ≤ 1,000 mg/day calcium

Key Secondary Endpoints (4 weeks)

- Primary composite ***and*** taking ≤ 500 mg/day calcium

Additional Endpoints ≥ 4 weeks

- PRO measures (including HPES and SF-36)
- Nephrolithiasis, nephrocalcinosis, vascular calcification, ER/urgent care visits and hospitalizations
- BMD and TBS by DXA, bone turnover markers, 24-hour urine calcium excretion (in extension only)

PRO = Patient-reported Outcome. HPES = Hypoparathyroidism Patient Experience Scale. BMD = Bone Mineral Density. TBS =Trabecular Bone Score. DXA = Dual-Energy X-Ray Absorptiometry. FECa = Fractional Excretion of Calcium.

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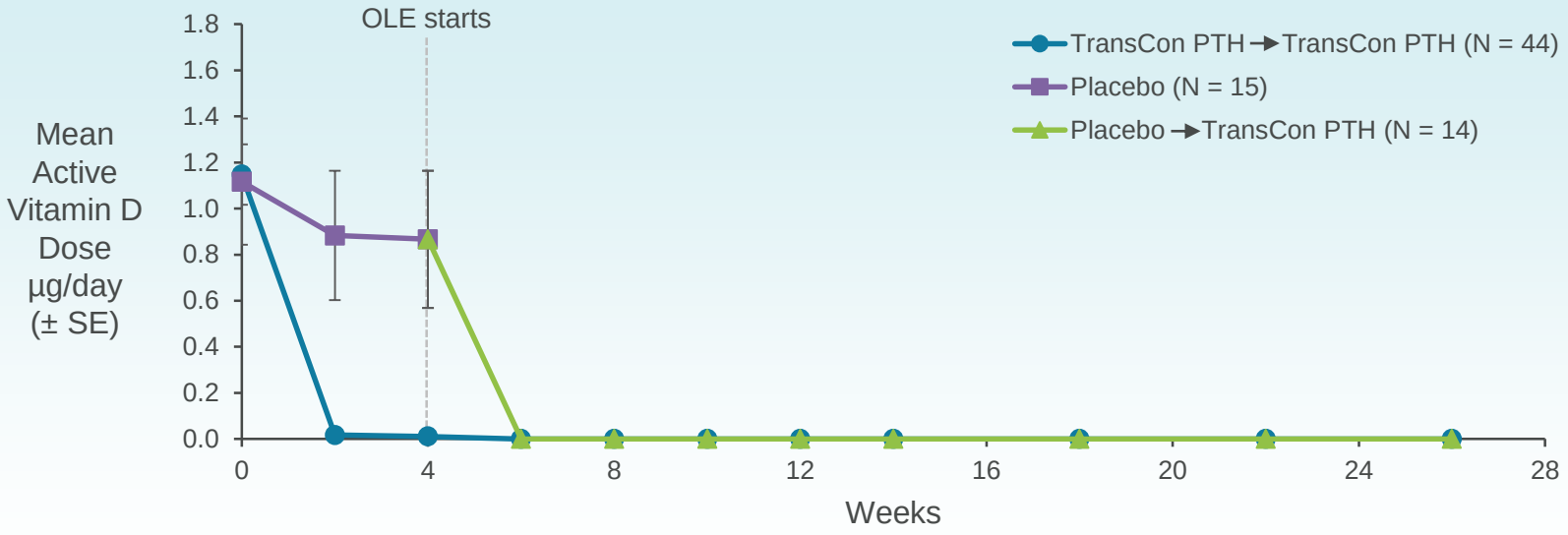
Preliminary PaTH Forward OLE Safety Summary

- TransCon PTH was generally well-tolerated
- 58 out of 59 randomized subjects currently receiving TransCon PTH in OLE*
- No drug-related serious TEAEs were reported
- No TEAEs leading to discontinuation of study drug
- TEAEs with TransCon PTH reflect known PTH pharmacology
- Injections were well-tolerated using pen injector planned for commercial presentation
- No new safety signals identified in the OLE portion of the study

No subjects had PTH TEAEs related to hyper- or hypocalcemia leading to ER/urgent care visit and/or hospitalization

*As of January 5, 2021.
Preliminary PaTH Forward OLE 6-month data.
TEAE = Treatment emergent adverse event

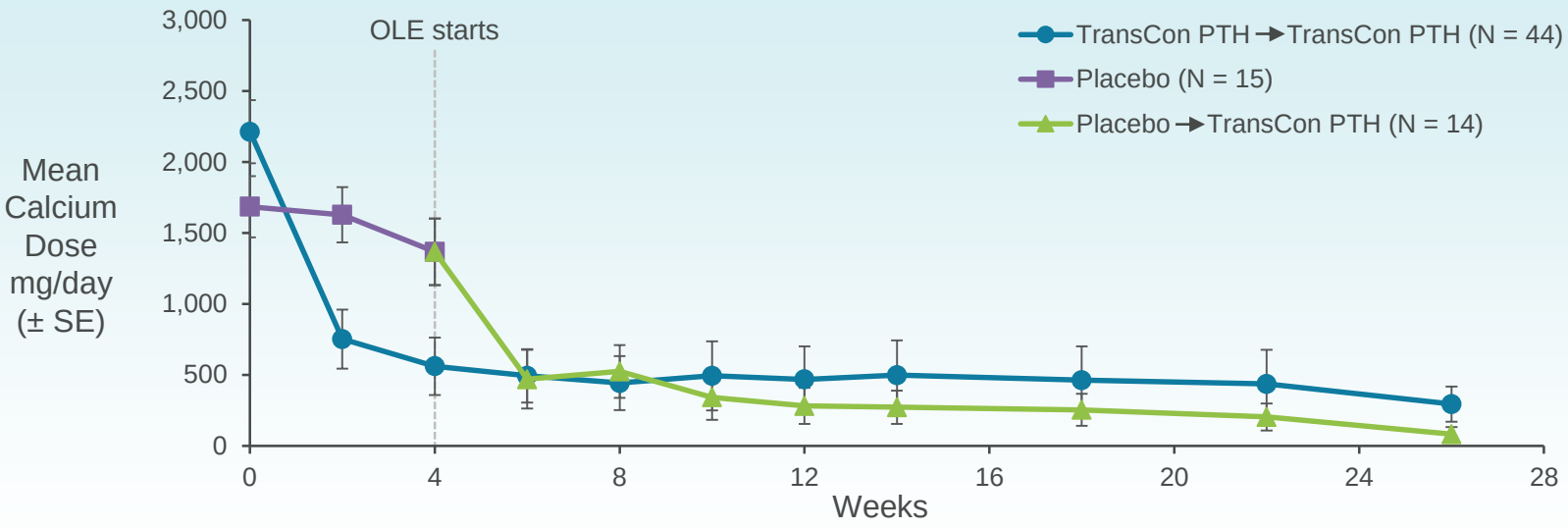
PaTH Forward OLE Mean Active Vitamin D Dose



TransCon PTH enabled discontinuation of active vitamin D within two weeks of treatment initiation

Preliminary PaTH Forward OLE 6-month data. Data on file.

PaTH Forward OLE Mean Calcium Supplement Dose

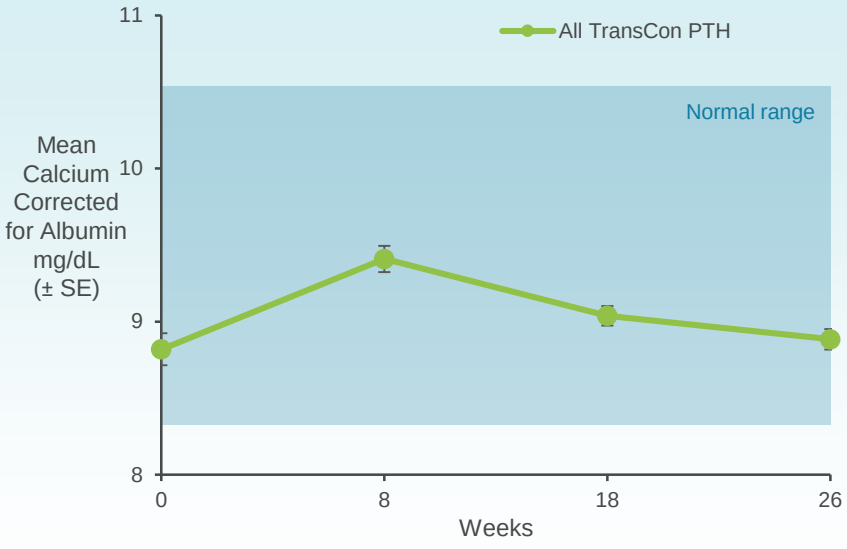


TransCon PTH enabled rapid and continuous calcium supplement reduction over 6-month study period

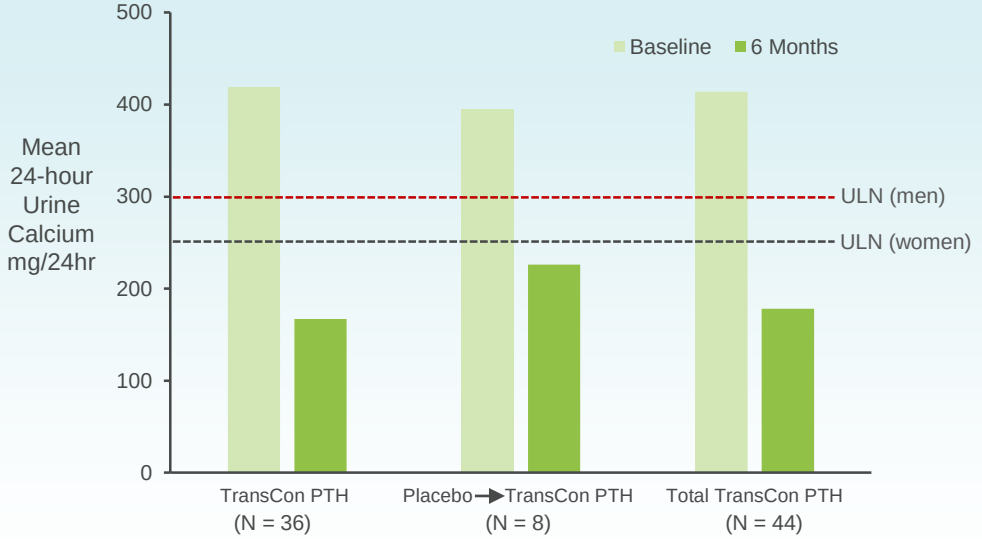
Preliminary PaTH Forward OLE 6-month data. Data on file.

PaTH Forward OLE Mean Serum Calcium and Mean 24-Hour Urine Calcium

Mean Serum Calcium



Mean 24-hour Urine Calcium



Mean 24-hour urine calcium normalized while maintaining normal mean serum calcium

Preliminary PaTH Forward OLE 6-month data. Data on file.
ULN = Upper limit of normal.

PaTH Forward OLE Change in SF-36® Health Survey Domain Mean Scores (SD)

	Placebo (N = 15)		Placebo Switch to TransCon PTH (N = 15)	TransCon PTH (N = 44)			All TransCon PTH (N = 59)	
SF-36 Domain*	Baseline	Week 4	6 Months	Baseline	Week 4	6 Months	Baseline	6 Months
PF	45 (11)	46 (14)	51 (7)	46 (9)	51 (6)	52 (5)	46 (10)	51 (6)
RP	42 (10)	42 (14)	49 (11)	42 (10)	49 (8)	51 (6)	42 (10)	50 (7)
BP	43 (11)	40 (16)	46 (10)	46 (10)	49 (8)	51 (9)	45 (10)	50 (9)
GH	44 (10)	47 (11)	50 (7)	43 (10)	47 (8)	51 (9)	43 (10)	51 (8)
VT	44 (12)	43 (12)	52 (10)	42 (11)	49 (9)	53 (8)	43 (11)	53 (8)
SF	44 (11)	41 (15)	53 (5)	42 (10)	50 (8)	52 (6)	43 (10)	52 (6)
RE	45 (12)	39 (16)	51 (7)	42 (13)	49 (10)	50 (8)	43 (13)	50 (7)
MH	47 (9)	47 (11)	55 (5)	46 (9)	51 (8)	51 (8)	46 (9)	52 (7)
PCS	43 (12)	44 (14)	48 (8)	45 (10)	49 (7)	51 (7)	44 (11)	50 (8)
MCS	46 (10)	43 (12)	54 (6)	43 (11)	50 (9)	51 (8)	44 (11)	52 (8)

Preliminary PaTH Forward OLE 6-month data. Data on file.
Green: Means above lower limit of population norm (47). (SD). *PF (physical functioning), RP (role physical), BP (bodily pain), GH (general health), VT (vitality), SF (social functioning), RE (role emotional), MH (mental health), PCS (physical component summary), MCS (mental component summary).

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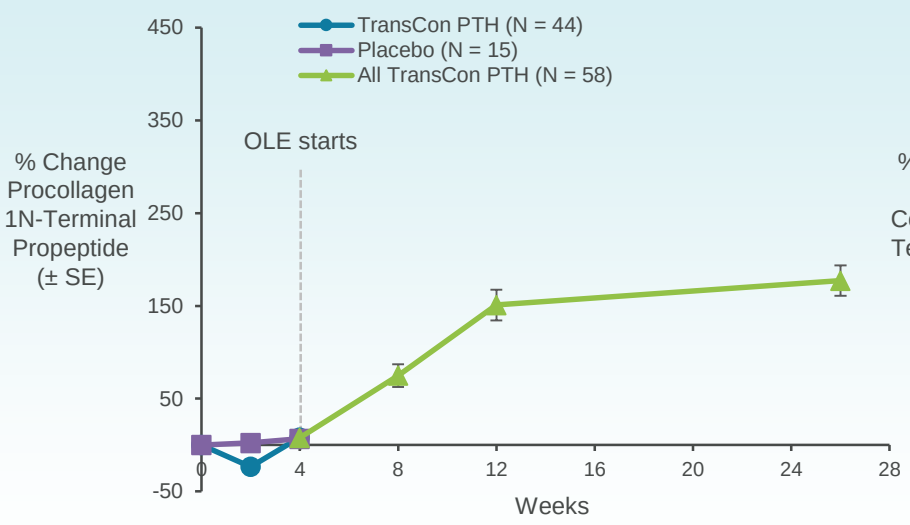
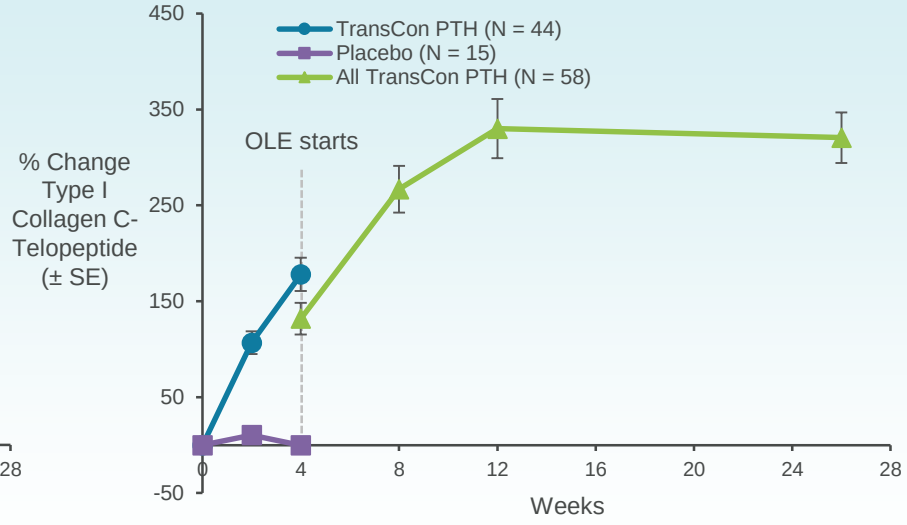
PaTH Forward OLE % Change in Mean P1NP and CTx

% Change in Mean P1NP



% Change in Mean CTx



At 26-week point, observed lower level of increase for anabolic compared to catabolic bone turnover

Preliminary PaTH Forward OLE 6-month data. Data on file.

Bone Mineral Density by DXA

At baseline, mean BMD Z-scores* at lumbar spine, femoral neck and total hip were elevated due to reduced bone turnover

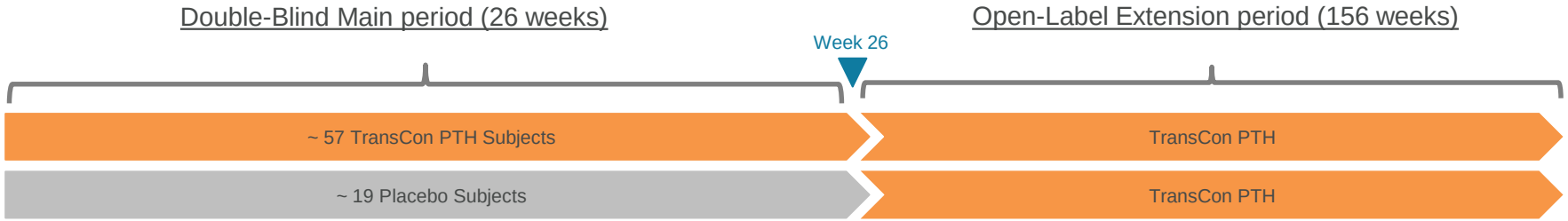
N = 44	Baseline	Week 26	Week 26 Change from Baseline
Lumbar Spine L1-L4			
Mean BMD Z-score	1.6	0.9	-0.7
Femoral Neck			
Mean BMD Z-score	1.2	0.7	-0.5
Total Hip			
Mean BMD Z-score	1.0	0.6	-0.5
1/3 Radius			
Mean BMD Z-score	0.4	0.4	0.0

With TransCon PTH treatment, BMD mean Z-score trended toward normalization at week 26

*A Z-score compares bone density to the average values for a person of the same age and gender. Preliminary PaTH Forward OLE 6-month data. Data on file.

PaTHway Phase 3 Trial Design

Double-blind, placebo-controlled trial with an open-label extension period
76[1] adults with chronic hypoparathyroidism randomized 3:1 (TransCon PTH:placebo)



Primary Objective
Confirm treatment effect of TransCon PTH in adults with hypoparathyroidism

Key Eligibility Criteria

- Adults with chronic hypoparathyroidism (*i.e.,* for at least 26 weeks)
- Age ≥ 18 years
- Reliant on calcitriol ≥ 0.50 mcg per day or alfacalcidol ≥ 1.0 mcg per day, **and** therapeutic elemental calcium ≥ 800 mg/day
- Serum calcium in normal (or just below normal) range: 7.8 – 10.6 mg/dL (1.96 – 2.64 mmol/L)
- No PTH or PTHrP therapy within 4 weeks prior to Screening

Countries Planned

- Europe (Germany, United Kingdom, Denmark, Norway, France, Italy, Hungary)
- North America (United States, Canada)

Primary Composite Endpoint at Week 26

Proportion of subjects with:

- Serum calcium in the normal range (8.3 – 10.6 mg/dL) ***and***
- Independence from active vitamin D ***and***
- Independence from calcium supplements[2]

Selected Secondary Endpoints at Week 26

- 24-hour urine calcium excretion
- Serum phosphate levels
- Hypoparathyroidism Patient Experience Scale measures
- 36-Item Short Form Survey (SF-36) measure

[1] Enrollment increased to 76 subjects to ensure evaluable data for 68.
[2] If needed to meet recommended dietary intake of calcium, it is permitted to take calcium supplements ≤ 600 mg/day as a nutritional supplement.

TransCon PTH: A Potential PTH Replacement Therapy

- Phase 1 and phase 2* data support profile of TransCon PTH as a potential PTH replacement therapy for HP
- Preliminary phase 2 PaTH Forward OLE results at month 6*:
  - 86% of subjects had (1) normal serum calcium, (2) off active vitamin D and (3) taking ≤ 600 mg/day of calcium
  - Mean scores for all summary and subdomains of SF-36 were normal for all TransCon PTH subjects at 6 months in PaTH Forward OLE
  - 58 out of 59 randomized subjects currently receiving TransCon PTH in OLE**
  - 12-month OLE update anticipated in Q2 2021
- Received orphan designation in US and EU
- Expect to file CTN for Japanese adult HP phase 3 study in Q2 2021
- North American and European phase 3 PaTHway Trial results expected Q4 2021

*Preliminary PaTH Forward OLE 6-month data. Data on file.
**As of January 5, 2021.

TransCon CNP: The New Frontier of Growth Biology

TransCon CNP - Two Randomized Placebo-Controlled Trials

- ACcomplisH Trial
  - Sequential rising dose (6, 20, 50, 100 µg/kg) study in cohorts of 12 – 15 subjects, double-blind, randomized 3:1 (TransCon CNP to placebo)
  - Higher dose cohorts initiated following blinded DMC review of prior dose 3-month interim data
  - 12-month blinded follow-up with roll over to long-term extension trial
- ACcomplisH China Trial*
  - Designed for dose expansion at effective dose determined from ACcomplisH Trial, double-blind, randomized 3:1 (TransCon CNP to placebo)
  - Plan to enroll over 60 subjects
  - After 12-month blinded period, subjects roll over to long-term extension trial
- TransCon CNP clinical program update expected Q4 2021

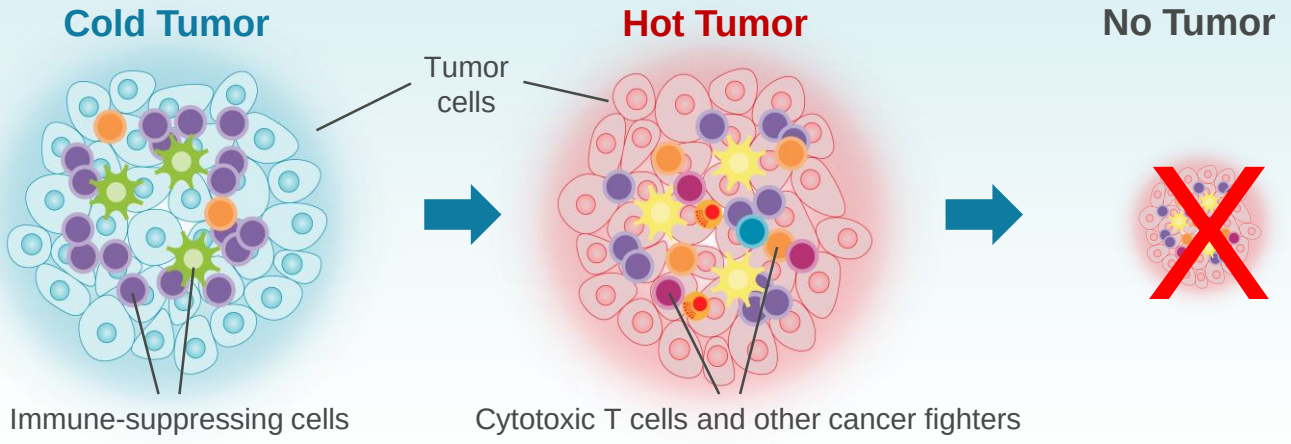
*Conducted by VISEN Pharmaceuticals.

Oncology

TransCon Positioned to Transform Cancer Therapy

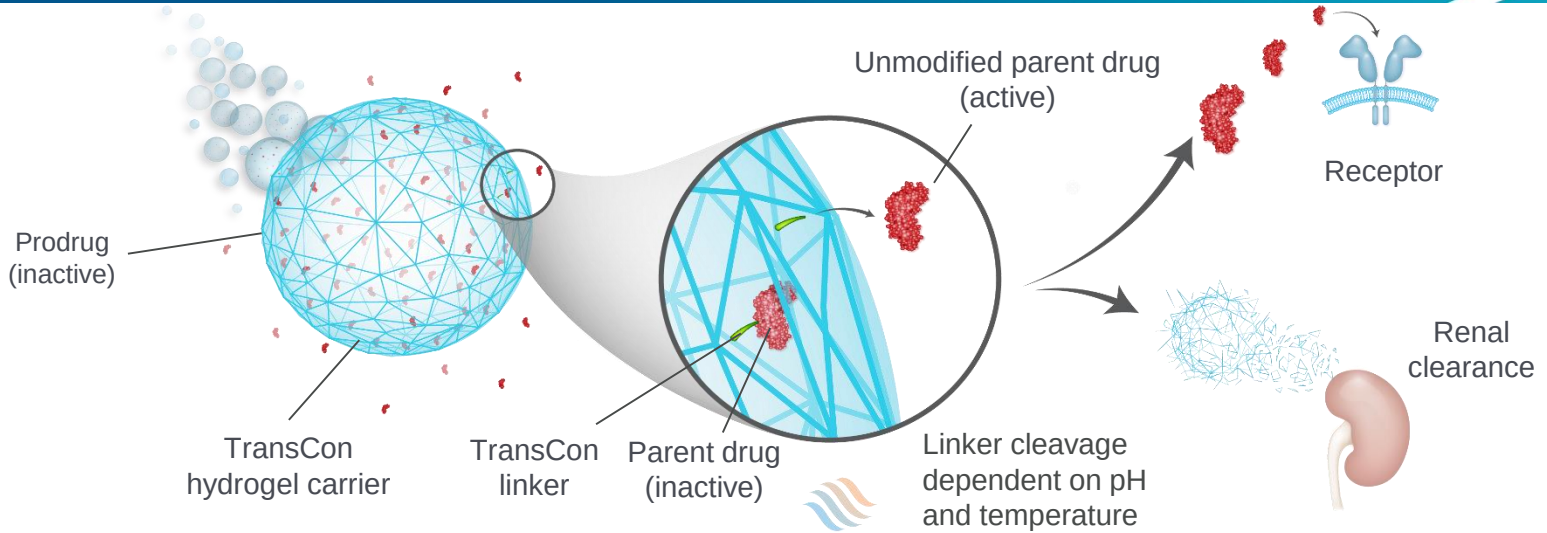
TransCon systemic and intratumoral technologies designed to enhance anti-tumor effects by

- Providing sustained modulation of tumor microenvironments
- Activating cytotoxic immune cells



Applicable for diverse drug classes and mechanisms of action; opportunity for combination approaches

TransCon Technology: Sustained Localized Release



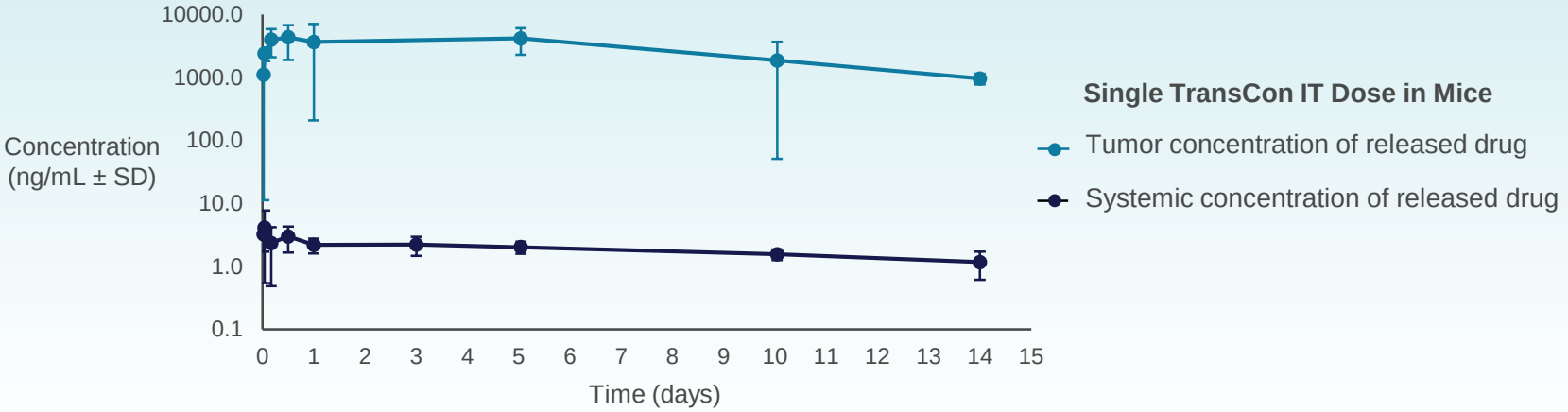
Parent drug is transiently bound to TransCon linker-hydrogel carrier, which inactivates, shields parent drug and prevents clearance

Following injection, the linker is designed to autocleave at a specific rate to predictably release unmodified parent drug

Designed to provide sustained high local drug levels with low systemic exposure; hydrogel degrades into small polymers that are renally cleared

TransCon IT: Potential Paradigm Shift in Intratumoral Delivery

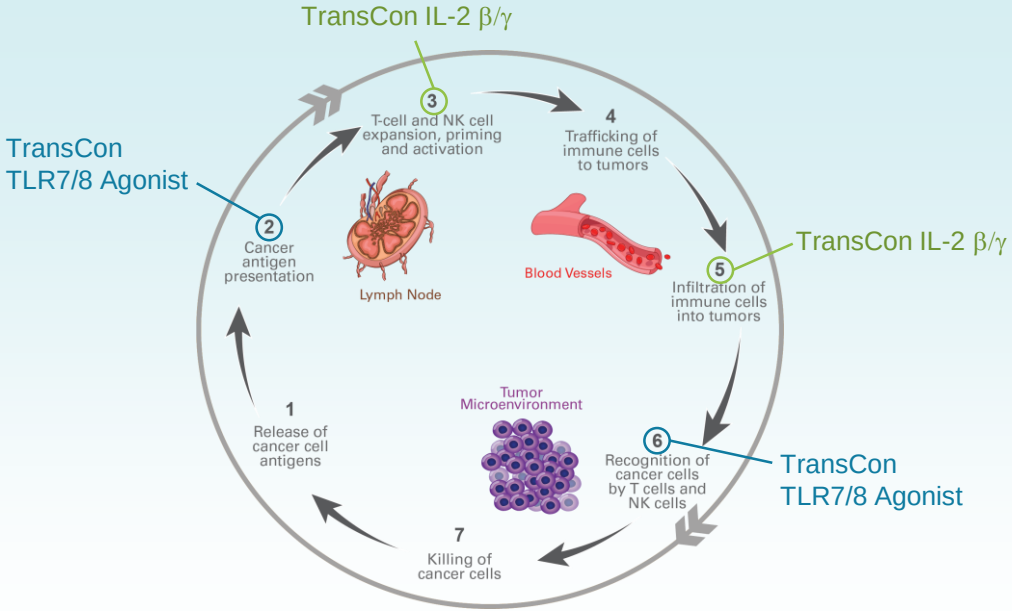
TransCon Intratumoral (IT) addresses the problems of conventional IT administration including rapid clearance from the tumor, high systemic exposure and toxicity



TransCon IT is designed to stay in the tumor and slowly release the drug ensuring high tumor drug concentration and low systemic exposure

Data on file.

Two Near-term Clinical Candidates – Potential to Address All Steps of the Immunity Cycle



TransCon TLR7/8 Agonist for IT delivery and enhanced tumor-antigen presentation

Designed to enhance antigen presentation and, thereby, promote activation of cytotoxic immune cells (IND filed)

TransCon IL-2 β/γ for systemic activation of tumor-antigen specific cytotoxic cells

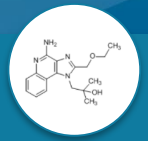
Designed to aid T cell and NK cell expansion and infiltration of immune cells into tumors (IND or similar planned for Q3 2021)

Additional TransCon Candidates

One IND or similar filing each year for new TransCon candidates with the potential to affect all steps in the immunity cycle

Combination approaches enable impact on all critical steps of anti-tumor response

TransCon TLR7/8 Agonist



TransCon TLR7/8 Agonist

All product candidates are investigational. For investor communication only. Not for use in promotion or product commercialisation.

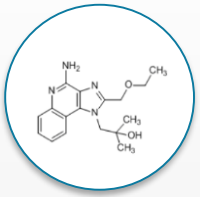
Opportunity for TransCon TLR7/8 Agonist in Solid Tumors

Efficacy
- Each injection designed to provide sustained exposure in the tumor for months to enhance immune activation
- Reduce risk of reaching super-high “ablative”, non-immunogenic levels

Safety
- Low systemic toxicity expected to reduce dose-limiting adverse events
- Infrequent dosing designed to improve practicality and reduce injection-related complications

Broad application
- Essentially all solid tumors are accessible for injection

TransCon TLR7/8 Agonist



Designed for IT, sustained release with ***minimal systemic exposure*** aiming for ***superior efficacy***

Phase 1/2 Dose Escalation and Dose Expansion Study of TransCon TLR7/8 Agonist Alone or in Combination with CPI

Dose Escalation ("3 + 3" Design) | Dose Expansion

Part 1: Monotherapy

Any solid tumor, any line

Part 2: Combination with CPI

Indications with known CPI activity

Part 3: Combination with CPI

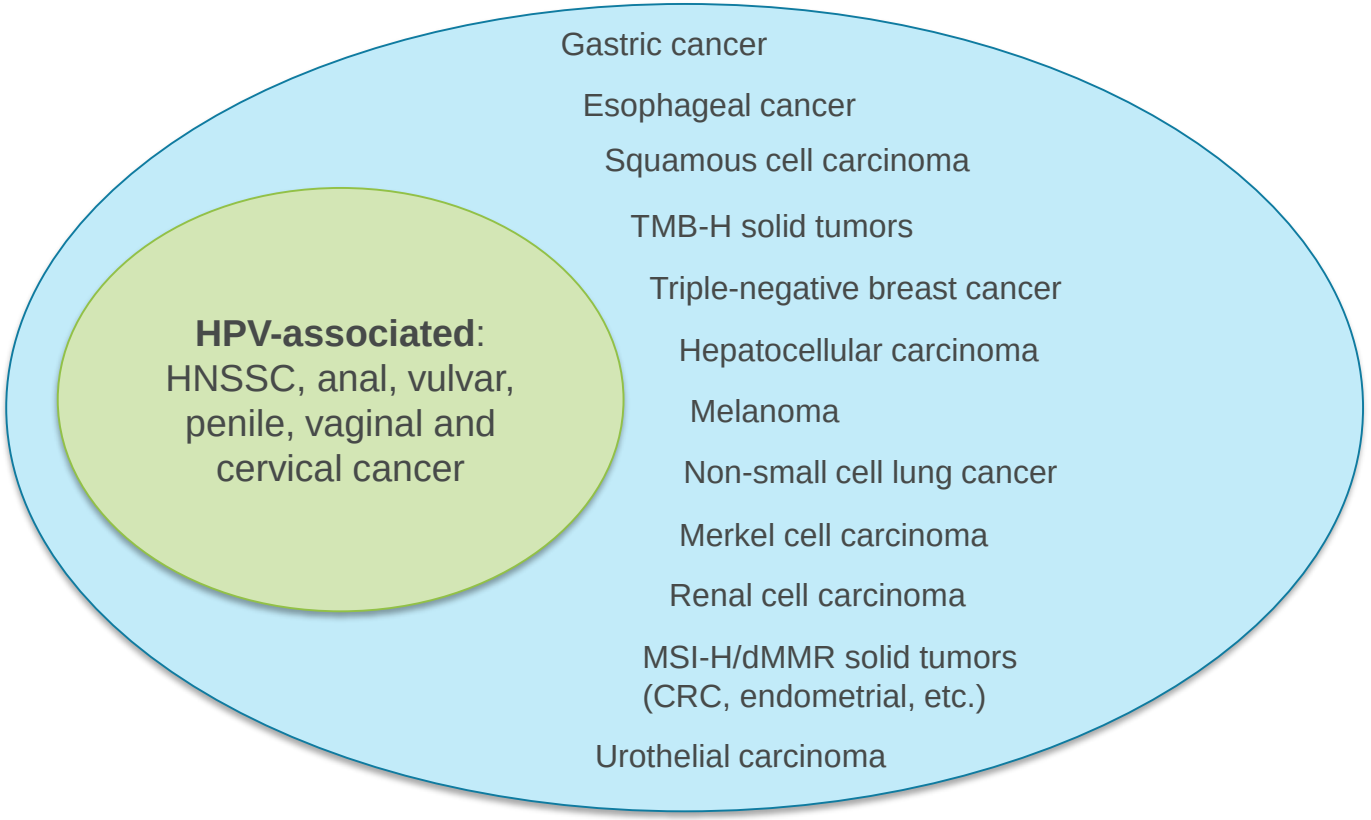
Multiple indication-specific cohorts at Recommended Ph2 Dose (RP2D)

Objectives:

- Safety and tolerability; define MTD and RP2D
- Pharmacokinetics / pharmacodynamics (PK/PD)
- Preliminary anti-tumor efficacy (ORR, duration of and time to response)

MTD = Maximum Tolerated Dose; ORR = Overall Response Rate using RECIST 1.1.

Initial Indication Selection Based on Strong Scientific Rationale to Focus on HPV-associated Cancers



TransCon TLR7/8 Agonist: Aiming to Transform How Cancer is Treated

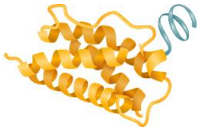
- TransCon technology offers a new treatment paradigm for IT sustained delivery with potential for superior efficacy and safety
  - Single IT dose provides exposure for weeks/months
  - Low systemic exposure, well tolerated in mice and non-human primates (NHP)
  - Complete tumor regressions, including abscopal effects and immunological memory against re-challenge observed in mouse tumor models
  - Sustained IT release expected to enable superior efficacy
- IND filed December 2020
- Focus on HPV-associated tumors as first indications
- Initiation of CPI combo dose escalation expected Q2 2021
- Initial results for monotherapy dose escalation expected Q4 2021

TransCon IL-2 β/γ

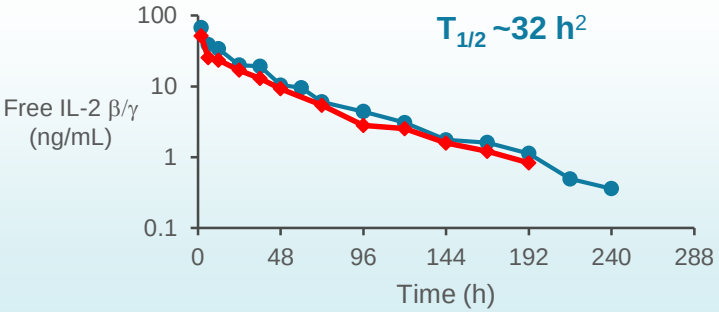
TransCon
IL-2 β/γ

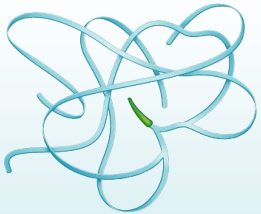
TransCon IL-2 β/γ: Optimized β/γ Bias, Potency and PK

Variant	β/γ Bias	Potency Reduction[1]
IL-2	No	n/a
IL-2 β/γ 5 kDa	Yes	~4-fold
IL-2 β/γ 10 kDa	Yes	~6-fold
IL-2 β/γ 30 kDa	Yes	~20-fold



Optimizing IL-2 β/γ bias and potency through permanent PEGylation





TransCon technology provides low C_{max} and prolonged exposure

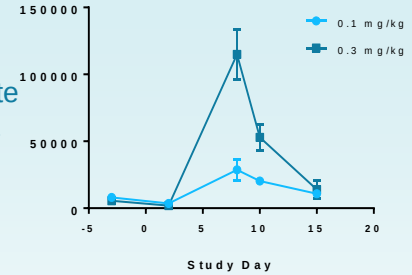
Independently optimized receptor bias and potency as well as pharmacokinetics, to create a potentially best-in-class IL-2 product

*Data on file. [1]Potency determined in HH cell-based assay expressing IL-2R β/γ.
[2]NHP Study Dose: 0.1 mg/kg.

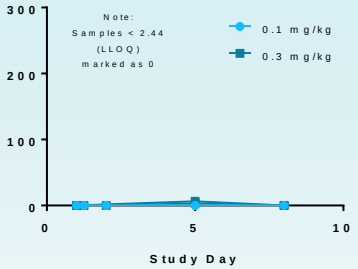
Robust Increase in Absolute Lymphocyte Count with Minimal Eosinophil Expansion in NHP

TransCon IL-2 β/γ[1] (Single Dose on Day 1)

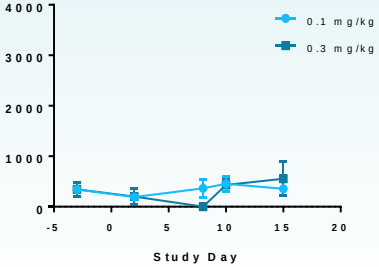
Absolute Lymphocyte Count/µL



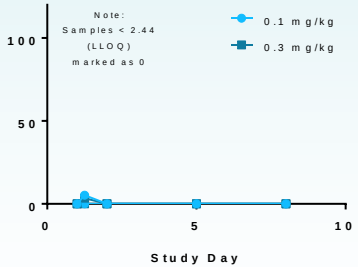
IL-5 (pg/ml)



Eosinophil Count/µL



IL-6 (pg/ml)



- Mean ~27-fold increase in Absolute Lymphocyte Count
- Minimal impact on eosinophils
- No capillary leak syndrome observed up to 0.9 mg/kg
- *In vivo* proliferation responses remain dose dependent up to 0.3 mg/kg

Doses are indicated as mg/kg; average animal weight 3.13 kg (2.46 – 3.69 kg)

Single dose supporting Q3W dosing; minimal effect on eosinophils, minimal IL-5 and IL-6 levels suggests low risk of vascular leak syndrome syndrome[3,4]

Q3W = every 3 weeks.

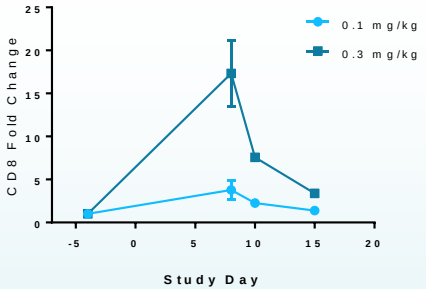
[1]Data on file. [2]Rosen D, et al. AACR annual meeting. 2020; Poster 4507.
[3]Rand, et al. *J Clin Invest*. 1991; 88: 825. [4]Van Haelst Pisani C, et al. *Blood.* 1991;78:1538.

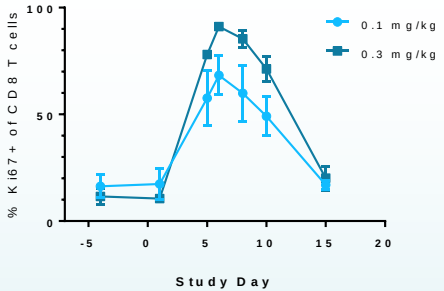
Potent CD8+ T Cell and NK Cell Peripheral Expansion and Activation in NHP

Fold Change*

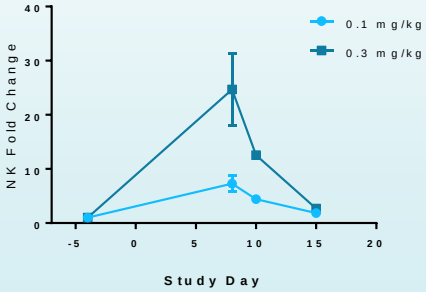
% Ki67+

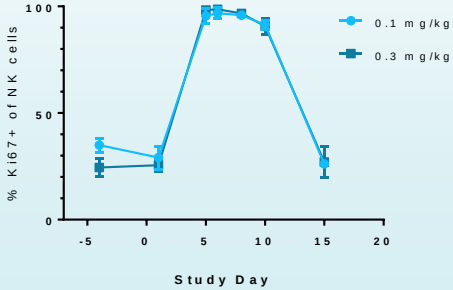
CD8+ T cells





NK cells





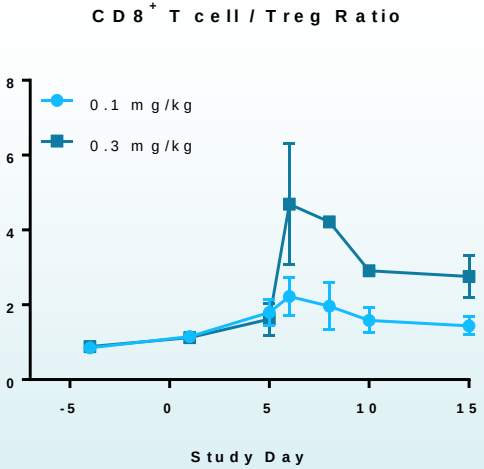
- Mean ~17-fold expansion of CD8+ T cells
- Mean ~25-fold expansion of NK cells
- Almost 100% of cells expressing Ki67 activation marker

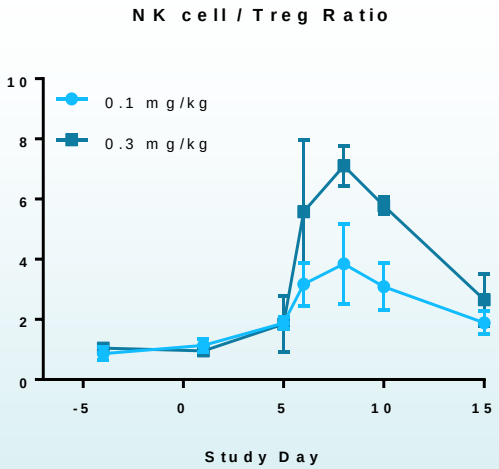
Expansion and activation of cytotoxic lymphocyte subsets observed following a single dose of TransCon IL-2 β/γ

*Fold change using cell counts derived from hematology lymphocyte counts and flow cytometry-based frequencies within lymphocytes.
Data on file.

TransCon IL-2 β/γ Expands Ratios of CD8+ T Cells and NK Cells Over Treg Cells in NHP

Fold change of cell ratios





- Mean ~5-fold increase of CD8+ T cell / Treg ratio
- Mean ~7-fold expansion of NK cell / Treg ratio

A single dose of TransCon IL-2 β/γ resulted in durable and robust increases in the ratios of CD8+ T cells and NK cells over Treg cells in NHP

Data on file.

Evaluation of Immune Memory and Potential Cross-immunity Following TransCon IL-2 β/γ plus TransCon TLR7/8 Agonist

Syngeneic CT26 tumor model (colon-derived tumor line)

Treatment with TransCon IL-2 β/γ + TransCon TLR7/8 Agonist

Re-challenge of complete responders with CT26

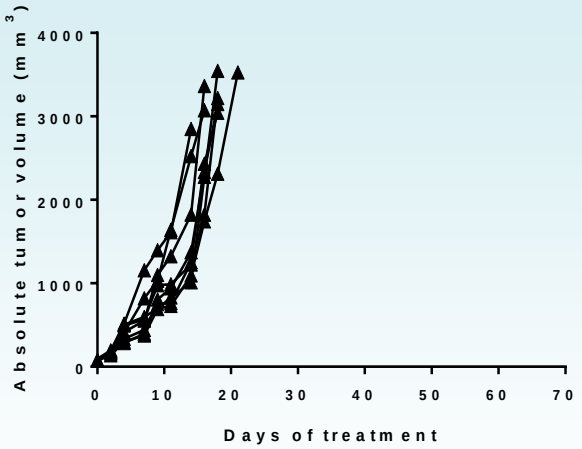
- 73 days after initial treatment
- No additional treatment

Challenge of complete responders with different tumor type, EMT6 (mammary-derived)

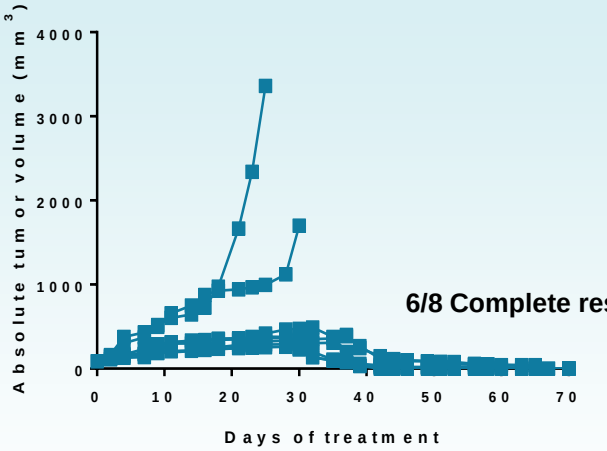
- 28 days after CT26 re-challenge
- No additional treatment

TransCon IL-2 β/γ Plus TransCon TLR7/8 Agonist Resulted in Durable Complete Tumor Regressions in the CT26 Tumor Model

Buffer control



TransCon IL-2 β/γ (3 doses) + TransCon TLR7/8 Agonist (single dose)



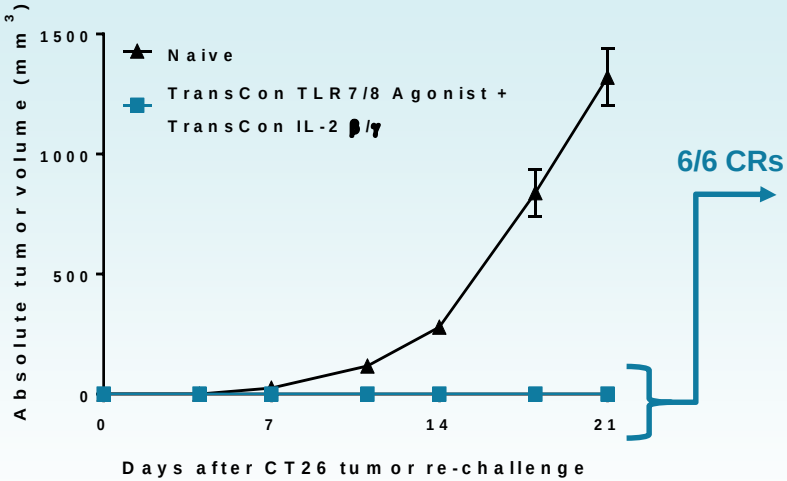
6/8 Complete responses (CR)

The immune activating mechanism of action of TransCon IL-2 β/γ plus TransCon TLR7/8 Agonist and complete responses suggests potential for anti-tumor immune memory

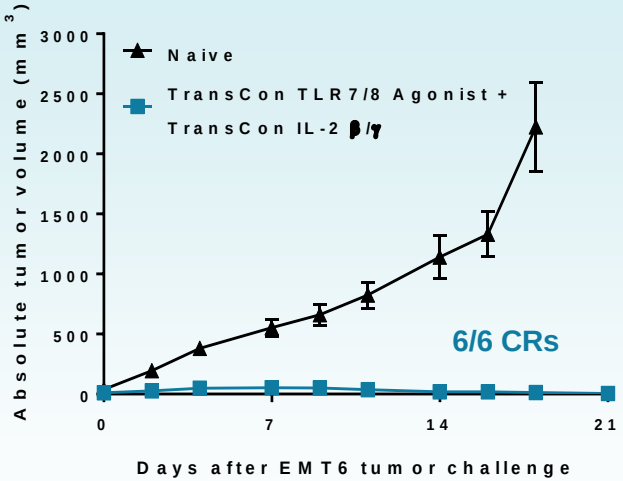
Data on file.

Potent Immune Memory and Cross-Reactive Anti-Tumor Response Against a New Tumor Type

CT26 re-challenge of CRs (colon-derived tumor line)



EMT6 challenge of CRs (mammary-derived tumor line)



Protection against initial tumor and a new tumor type, suggesting potent anti-tumor memory and cross-reactive anti-tumor immunity

Data on file.

Potential Paradigm Shift in How Cancer is Treated

- Building a pipeline using TransCon technologies that may enable a new treatment paradigm building upon well-known biology
- Two product candidates demonstrating potentially best-in-class properties
  - TransCon TLR7/8 Agonist designed for IT, long-term sustained release for superior efficacy with minimal systemic adverse events; IND filed
  - TransCon IL-2 β/γ designed for optimized IL-2Rβ/γ bias and potency, combined with low C_{max} and long exposure; IND or similar planned for Q3 2021
  - Combination resulted in potent anti-tumor responses and immunological memory, including cross-immunity against a new tumor type
- Building diversified pipeline through one IND or similar filing each year for new TransCon product candidates with the potential to affect all steps in the immunity cycle

Global Commercial Strategy – Multiple Approaches

- Establishing global commercial presence to deliver potential best-in-class TransCon product candidates to address patients' unmet medical needs
- Laying groundwork for successful future endocrinology rare disease launches
- US commercial organization in place for potential launch of TransCon hGH in pediatric GHD
- Preparing for commercialization in Europe
  - Building integrated organization in select countries for potential TransCon hGH MAA approval in Q4 2021
  - Evaluating established distribution channels in other countries
- Establishing global commercial presence through partners with local expertise and infrastructure
  - Collaborating with VISEN Pharmaceuticals for Greater China
  - Partner in Japan and South Korea when appropriate
  - Serve patients in ROW through established sales and distribution systems

VISEN Pharmaceuticals

- VISEN was formed in 2018 to develop, manufacture, and commercialize TransCon endocrinology rare disease product candidates in Greater China, the second largest pharmaceutical market
  - VISEN responsible for development, manufacturing and commercialization in Greater China
  - Supports integration of Ascendis global clinical development and commercialization strategies
  - In Series A financing, Vivo and Sofinnova invested $40 million, and Ascendis contributed rights to TransCon hGH, TransCon PTH and TransCon CNP for 50% equity ownership
- VISEN closed Series B equity financing on January 8, 2021
  - Raised a total of $150 million from new and existing investors; Ascendis participated with a $12.5 million investment
  - Ascendis now owns ~44% of issued and outstanding shares
- Following closing of the Series B financing, Ascendis has an additional board seat:
  - Michael Wolff Jensen, Chairman, Senior Vice President and Chief Legal Officer of Ascendis, became a member of VISEN's board and serves as Chairman
  - Jan Mikkelsen, CEO of Ascendis will continue to serve on the VISEN board

Selected 2021 Expected Key Milestones