POWERING A NEW WAVE OF IMMUNE THERAPEUTICS

Corporate Presentation

This presentation contains forward looking statements that do not guarantee future performance.

SONNET BioTherapeutics

FORWARD LOOKING STATEMENTS

This presentation contains forward-looking statements about **Sonnet BioTherapeutics** based on management's current expectations which are subject to known and unknown uncertainties and risks. Words such as "anticipated," "initiate," "expect," "intend," "plan," "believe," "seek," "estimate," "may," and variations of these words or similar expressions are intended to identify forward-looking statements. Our actual results could differ materially from those discussed due to a number of factors, including, but not limited to, our ability to raise additional equity and debt financing on favorable terms, the success of our R&D programs, our ability to obtain regulatory approval of our clinical assets and other risk factors.

We are providing this information as of the date of this presentation and do not undertake any obligation to update any forward-looking statements contained in this presentation as a result of new information, future events or otherwise. Unless the context requires otherwise, references to "Sonnet," "Company," "we," "us" and "our" refer to **Sonnet BioTherapeutics**.

Powering a New Wave of Immune Therapeutics

LEADERSHIP

Highly experienced executive team with a deep knowledge of biopharmaceutical drug discovery and development

THERAPEUTIC FOCUS

Corporate strategy comprises an internal therapeutic pipeline of oncology candidates with external business development initiatives underway across oncology, autoimmune and inflammatory diseases

Platform expansion capability into vaccines, antibody drug conjugation and CAR-T

FORTHCOMING MILESTONES

SON-1010: Initiate Phase 1 NHV study, 3Q22

SON-1010: Initial Phase 1 safety data in solid tumors & NHV, 2H22

SON-080: Initiate Phase 1b/2a trial in CIPN, 3Q22

SON-080: Phase 1b/2a initial safety data in CIPN, 2H22

SON-1210: Completion of NHP GLP tox study, 2H22

PLATFORM TECHNOLOGY

Proprietary, patented **Fully Human Albumin Binding** (F_HAB®) platform provides considerable payload flexibility with asset generation capabilities across major biologic drug classes

- Targeted delivery with increased *in vivo* efficacy
- Single or bispecific mechanism of action
- Extended pharmacokinetics (pK)

Sonnet's F_HAB technology utilizes a single-chain antibody fragment (scFv) capable of delivering one or two active drug compounds

- Therapeutic payloads attached via flexible linker peptides

Following administration, Sonnet's F_HAB derived candidates bind to and "hitch-hike" on endogenous Human Serum Albumin (HSA) for transport to lymphoid tissues

- F_HAB has been designed to bind, unbind and rebind to albumin in an on-and-off fashion through a physical bonding mechanism, obviating the need for chemical conjugation

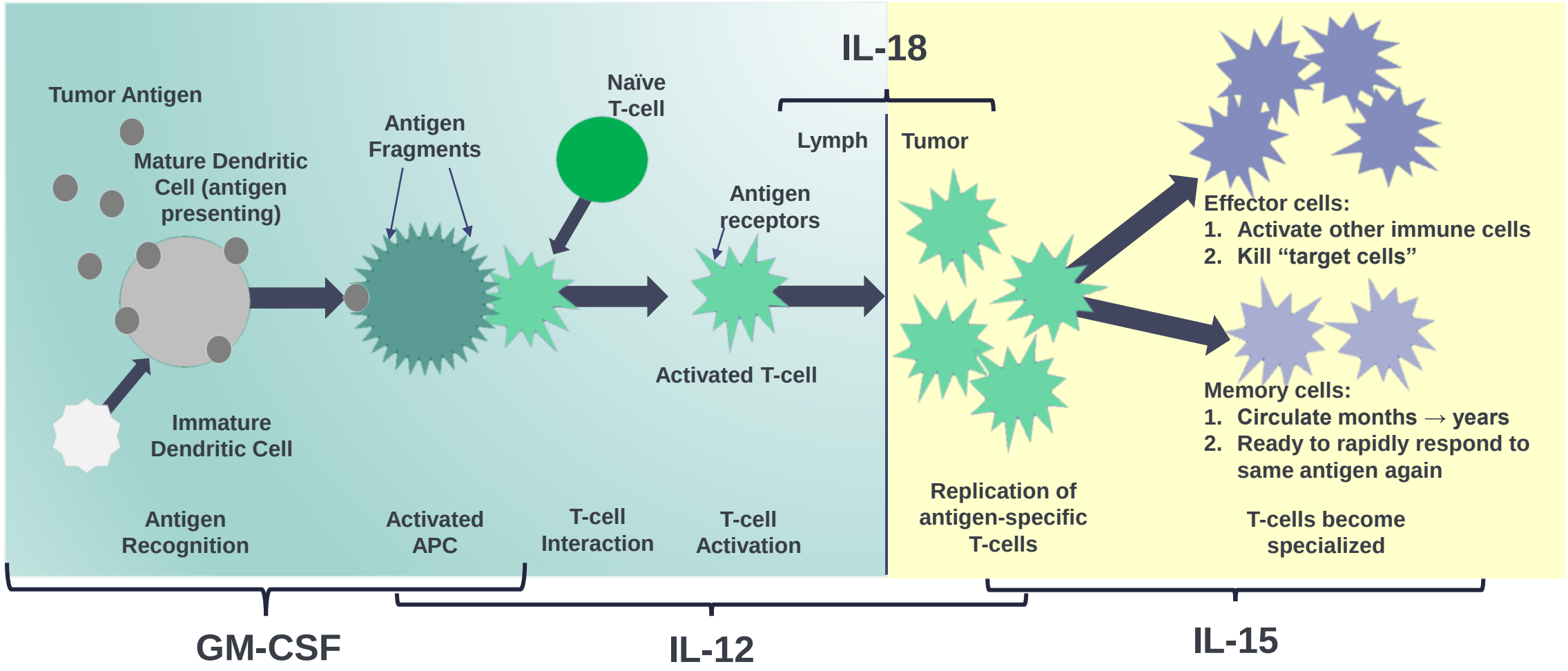
Pipeline Overview

F_HAB Platform

PROGRAM	INDICATIONS	DISCOVERY	PRECLINICAL	PHASE I	PHASE II	PHASE III	PARTNER
SON-1010 (IL12-F_HAB)	Non-Small Cell Lung Cancer, Head and Neck Cancer						
SON-1210 (IL12-F_HAB-IL15)	Solid Tumors						
SON-1410 (IL18-F_HAB-IL12)	Melanoma, Renal Cancers						
SON-3015 (Anti-IL6-F_HAB-Anti-TGFβ)	Tumor and Bone Metastases						
SON-080 (Low-dose IL-6)	Chemotherapy Induced Peripheral Neuropathy						
	Diabetic Peripheral Neuropathy						New Life Therapeutics

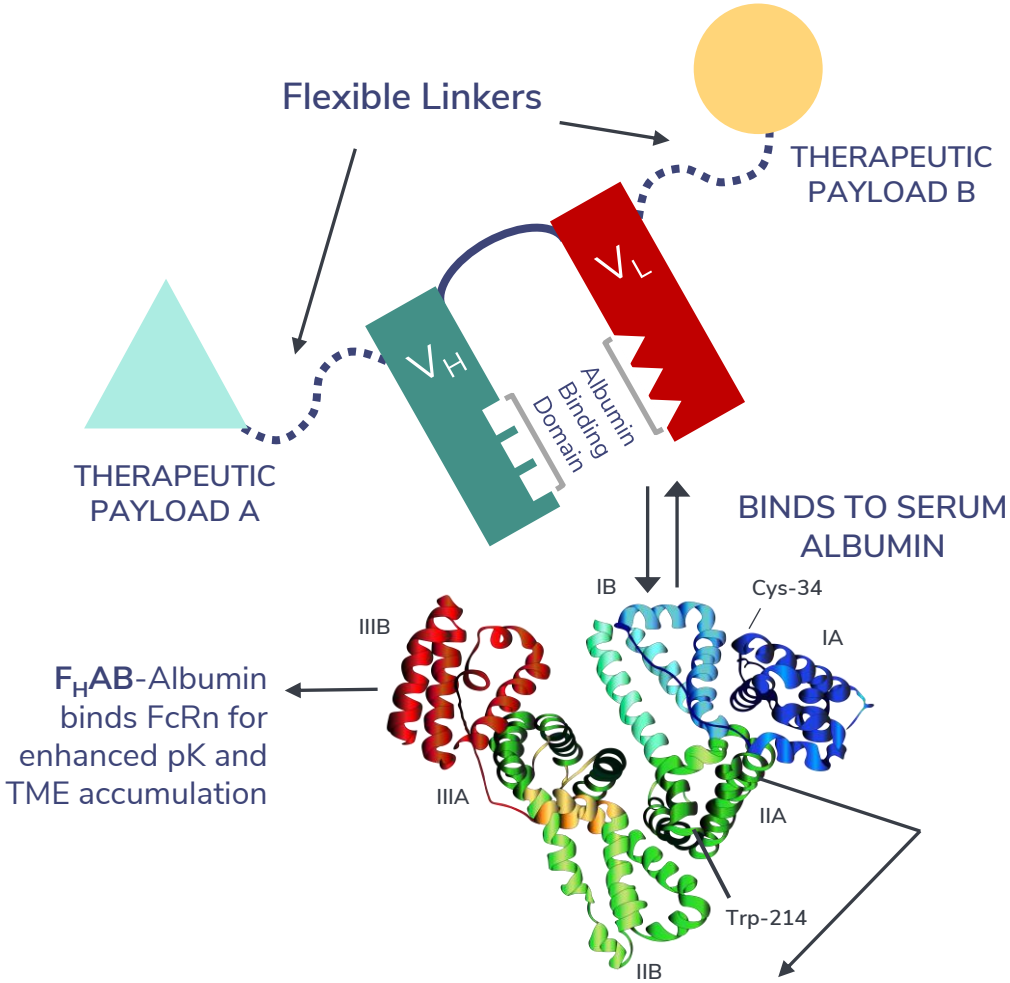
Sonnet Pipeline Targets

Multiple Points of Intervention



F_HAB PLATFORM TECHNOLOGY

Sonnet's Technology Advantage



F_HAB-Albumin complex binds to GP60 and SPARC in the tumor microenvironment

For a video displaying the F_HAB mechanism, please click here

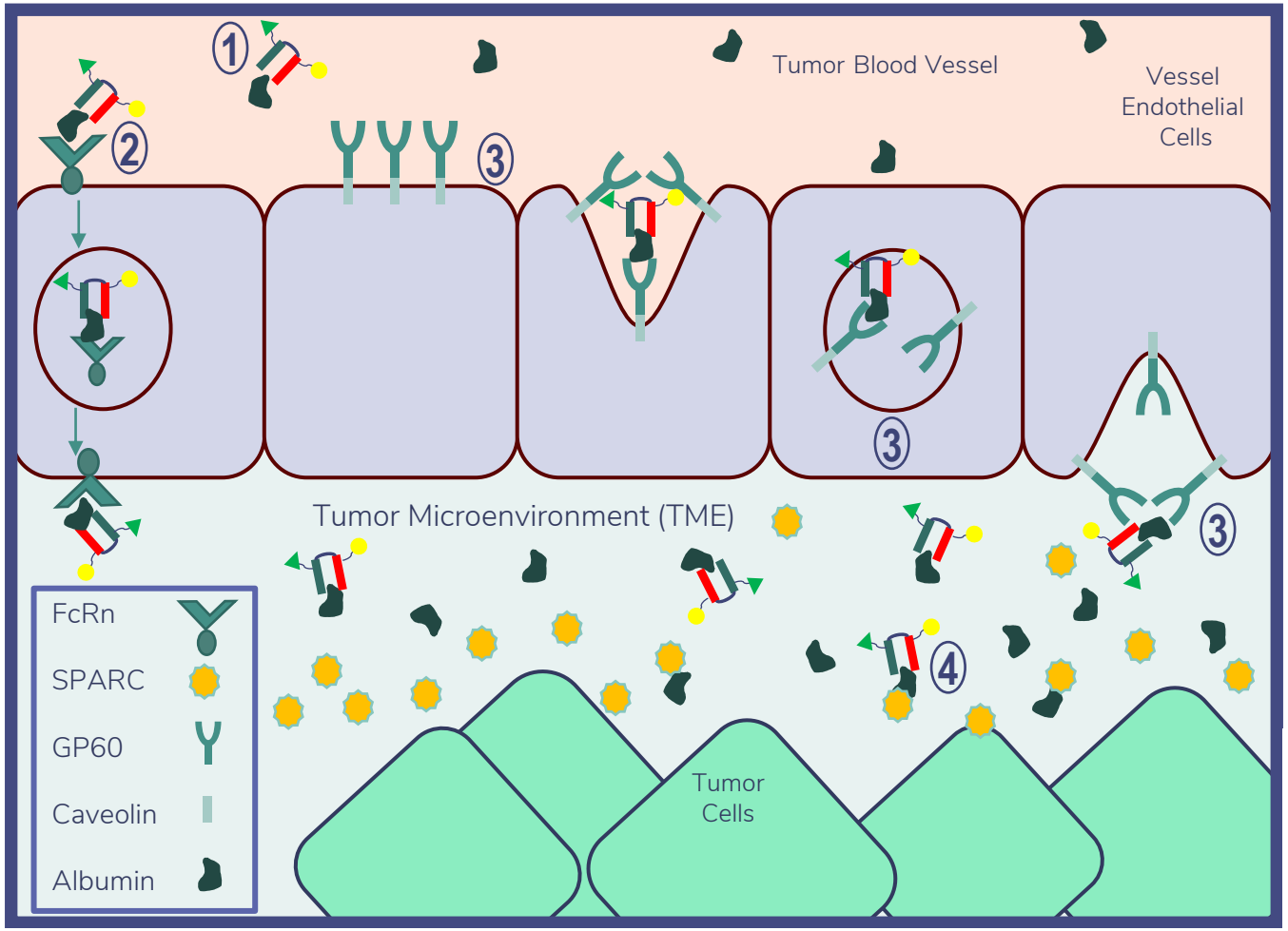
Asset Profile: SON-1010 (IL12-F_HAB)
Stage: Phase 1 study initiated
Indications: Solid Tumors

Product Description: Asset delivery and targeting by albumin binding mechanism via the F_HAB domain, which results in accumulation of SON-1010 in the microenvironment of solid tumors (TME) through binding to FcRn, GP60, and SPARC, thereby enhancing penetration and retention with increased efficacy. SON-1010 has demonstrated improved pK via binding to FcRn, similar to full MAbs, and improved tumor delivery, all available in a single patented construct.

Platform Attributes:

- Fully human construct – Low/No Immunogenicity
- Mammalian cell production (CHO) – Glycosylated
- Small size with linear flexibility – Optimized tumor penetration
- Enhanced PK – FcRN binding
- Targeted – GP60 and SPARC
- Asset Optionality: Single or Bispecific payload capacity
- Modular – Rapid asset development

F_HAB: Accumulation in the Tumor Microenvironment



Albumin is elevated in solid tumors

FcRn over expressed in tumors

GP60 is over-expressed on tumor vessel endothelial lining

Over-expression of **SPARC** has been shown in many solid tumors

Tumor architectural changes cause **EPR** that helps maintain the TME

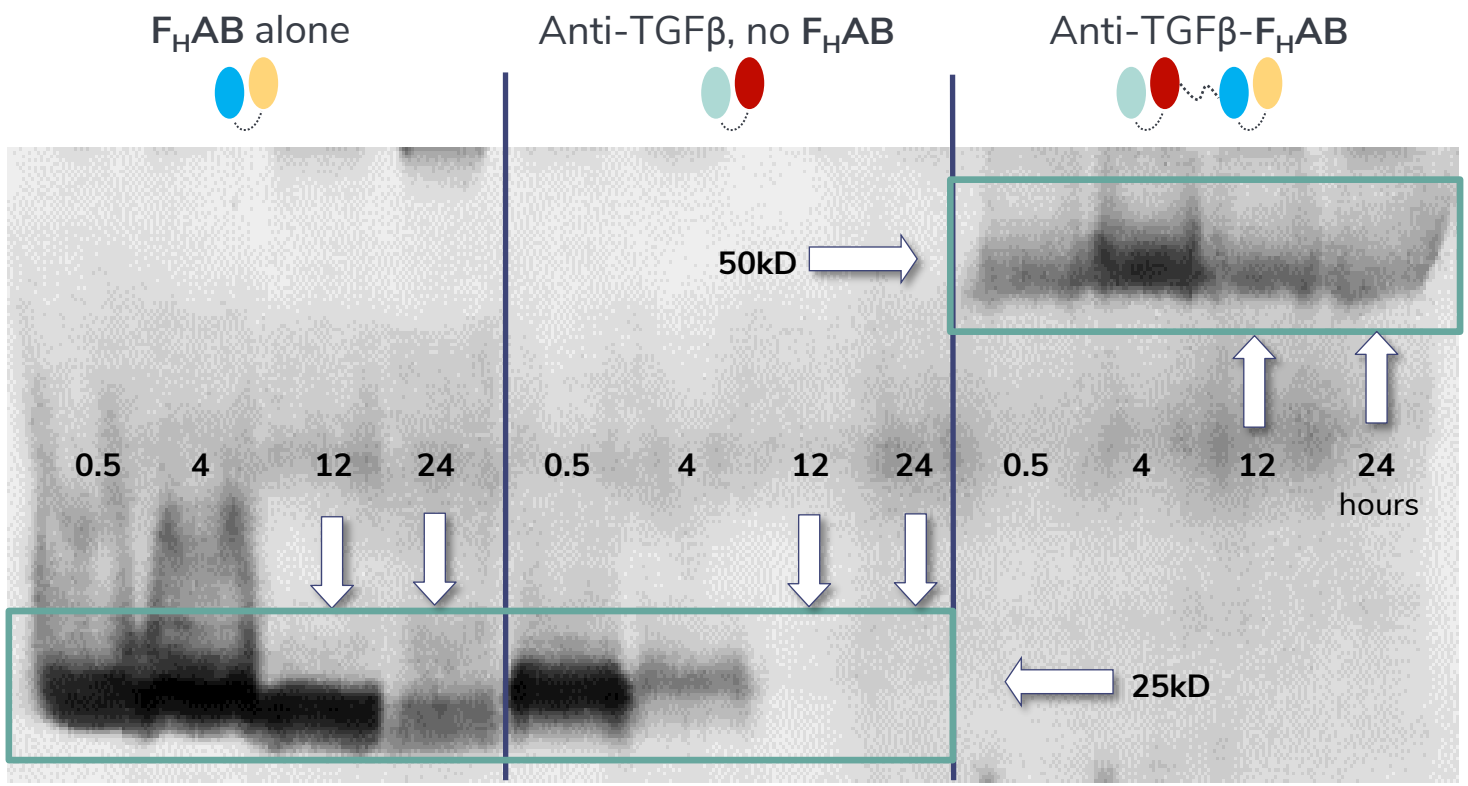
1. IL-F_HAB binds Albumin in the blood
2. IL-F_HAB – Albumin binds to FcRn resulting in transport from blood to TME
3. IL-F_HAB – Albumin binds to GP60, resulting in transport from blood to TME
4. IL-F_HAB – Albumin binds to SPARC

This mechanism of action results in SPARC retaining IL-F_HAB in TME

Hoogenboezem, Adv Drug Deliv Rev. 2018 May; 130: 73-89
Merlot, Front Physiol (2014) 5: 299

F_HAB: Superior Uptake and Retention in Tumor Tissue

An *in vivo* demonstration of SPARC-mediated binding with optimized retention using albumin



Results show F_HAB enhanced EPR = Efficacy

Western blot of Mouse 4T1 (TGFβ positive tumor@150mm^3) extracts from mice 0.5-24 hours post IV injection with 100 µg/mouse of **F_HAB**, anti-TGFβ or anti-TGFβ-**F_HAB**

F_HAB present at 0.5 hours, peaks at 4 hours and detectable through 24 hours

Anti-TGFβ present at 0.5 hours, declines at 4 hours and undetectable at 12 and 24 hours

Anti-TGFβ-**F_HAB** present at 0.5 hours and detectable through 24 hours

PROOF-OF-CONCEPT

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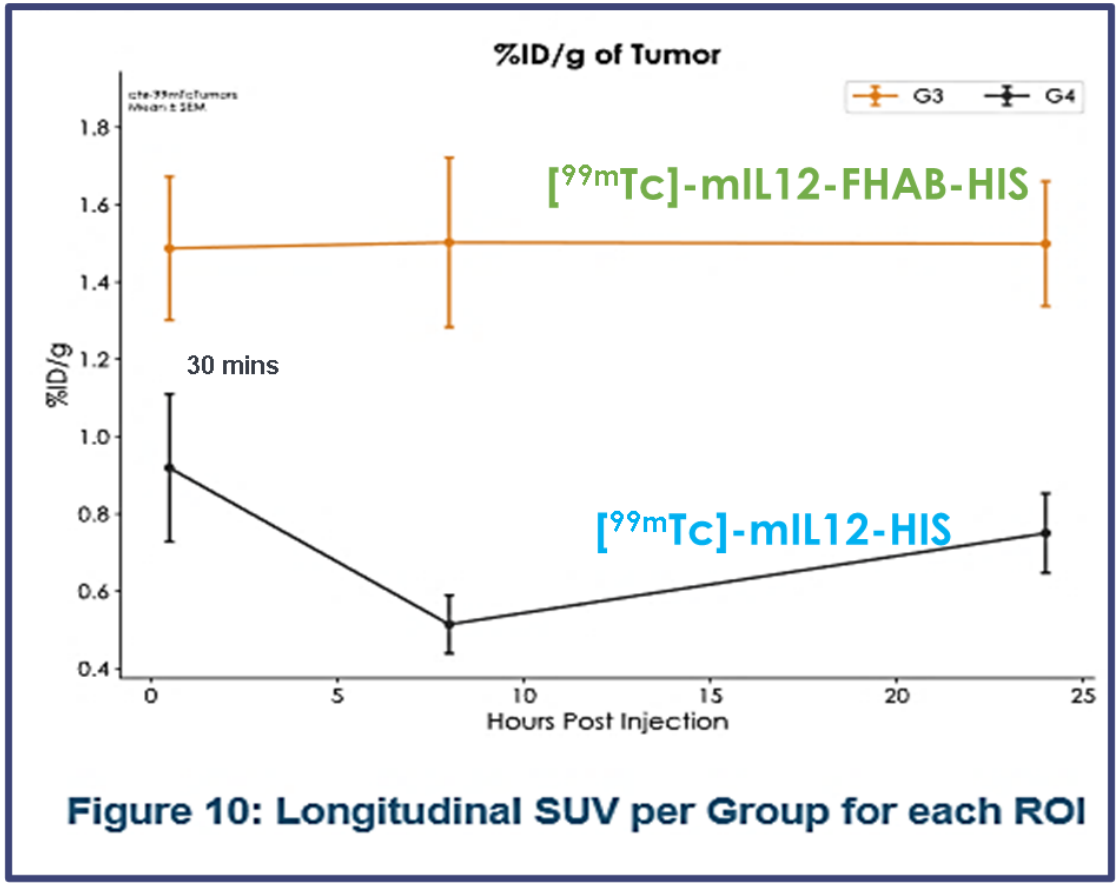
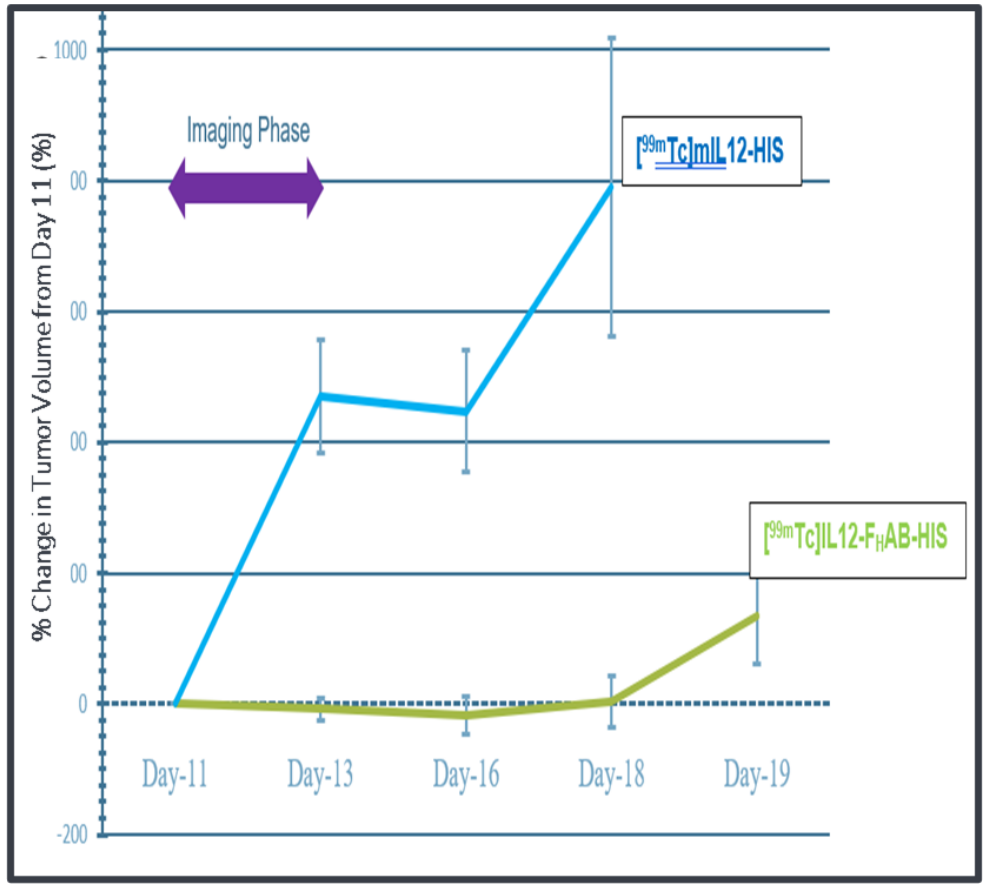
Tumor Accumulation Comparison

Labeled mIL12-F_HAB vs mIL12





In B16F10 tumor-bearing mice, the mIL12-F_HAB-HIS molecule accumulated ~2-3x fold higher than the mIL12-HIS (without F_HAB domain). The HIS Tag was labeled with [99mTc].

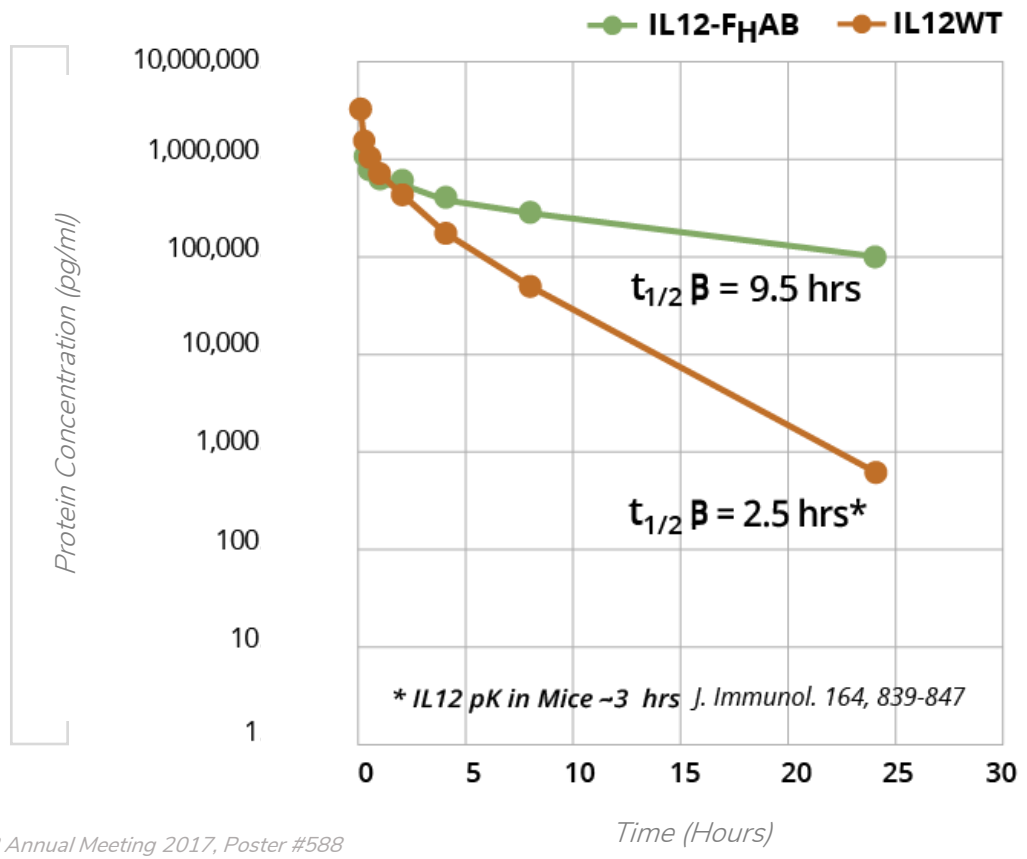
Efficacy Readout: The [99mTc]-mIL12-F_HAB-HIS was more effective in inhibiting tumor growth than [99mTc]-mIL12-HIS (minus F_HAB) over a 7-day period in the B16F10 mouse model.

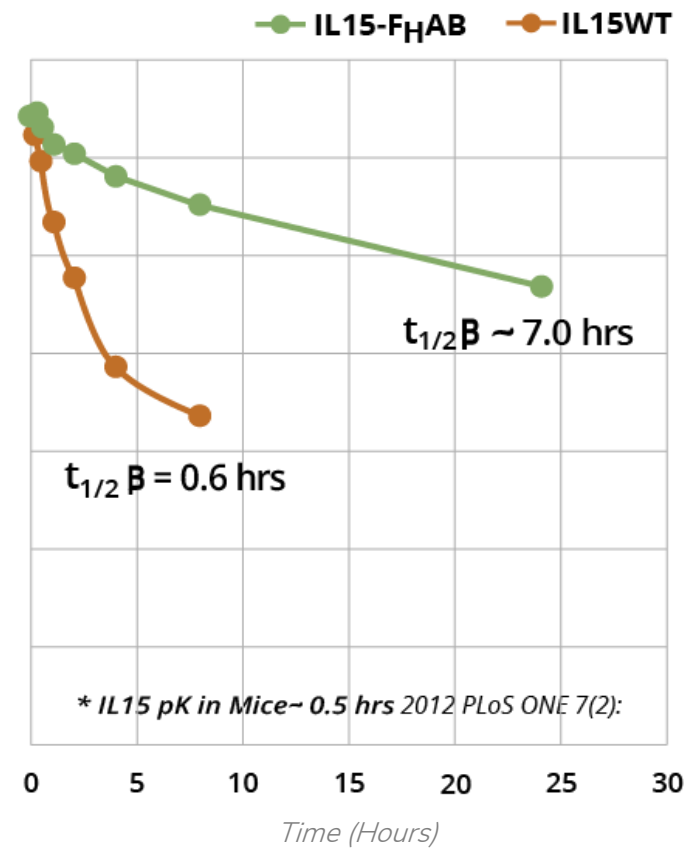
PROOF-OF-CONCEPT

F_HAB: Enhanced Pharmacokinetic Characteristics

Comparing the pharmacokinetic characteristics of naked IL-12 and IL-15 versus the same interleukins linked to Sonnet's F_HAB

***Method**: 8 mice C57B/ TP, age 9.5 weeks, dose IV, sacrificed @ 5, 15, 30 mins, 1, 2, 4, 8, 24 & 48 hrs. Serum tested by ELISA.*





Fusion to **F_HAB** increased the plasma half-life of **IL-12 > 4x** and **IL-15 >10X**

IL-12 MW = 70 Kd
vs IL-15 MW = 13Kd

F_HAB: Defining A Better Platform Technology

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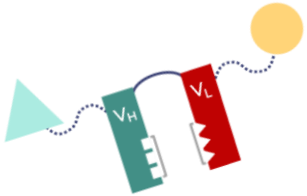
*Sonnet **F_HAB** Constructs*

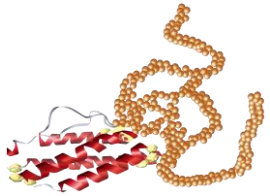
Albumin Binding



ATTRIBUTES	QUALIFIER
Mode	Mono or Bi-Specific
pK; Alb binding to FcRn	+++ Dosing 3-4 weeks
Glycosylated CHO expressed	+
Tumor Targeting and Retention	++++ Albumin binds gp60 and SPARC
Tumor Penetration, Size and Linear Flexibility	+++ 85-104 kD
Controllable Quantity Dosing	+++

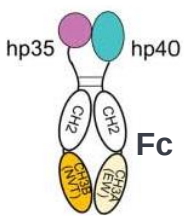
PEG

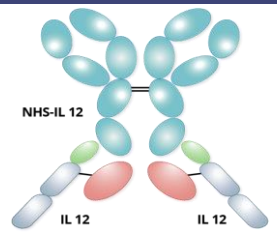
1-PEG-IL-2(active)



ATTRIBUTES	QUALIFIER
Mode	Mono
pK; Size only	++ Dosing 1-2 weeks
Glycosylated Non mammalian	-
Tumor Targeting and Retention	-
Tumor Penetration Globular	+ ~100+ kD
Controllable Quantity Dosing	++

Fc/IgG

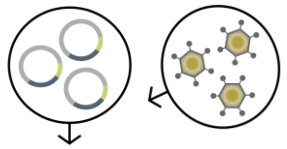




ATTRIBUTES	QUALIFIER
Mode	Mono or Bi-Specific
pK; FC Binding to FcRn	+++ Dosing 3-4 weeks
Glycosylated CHO expressed	+
Tumor Targeting and Retention	++
Tumor Penetration Globular	++ 100-300 kD
Controllable Quantity Dosing	+++

DNA / Viral

Gene Therapy
Viral Gene Therapy



ATTRIBUTES	QUALIFIER
Mode	Mono
pK	++ Dosing 2-4 weeks
GMP - BSL-2 classified facility	+
Tumor Targeting DNA	Intratumoral Injection *
Tumor Targeting Viral	Viral tumor cell lysis
Controllable Quantity Dosing	Issues of variable spread, penetration, resistance and anti-viral immunity

** No ADCC / CDC Activity*

Jung, Oncolmm 2018, 7:e1438800
Greiner, Imm Targ & Ther 2021, 10:155–69
Algazi, Clin Canc Res 2020, 26:2827-37
Martinez, JCI, 2019; 129:1407-18

F_HAB: PRECLINICAL PROOF-OF-CONCEPT

SON-1010: Extended IFN-γ Release With Reduced Tumor and Reciprocal Spleen Weight vs Naked IL-12

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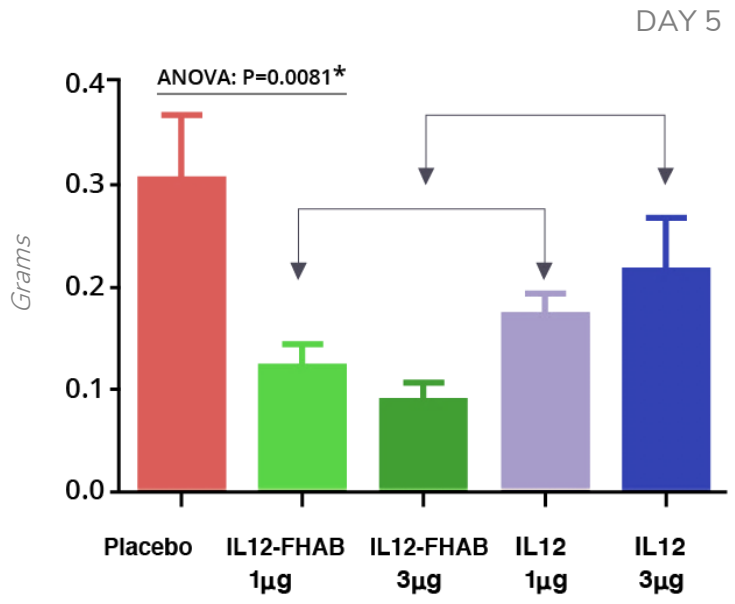
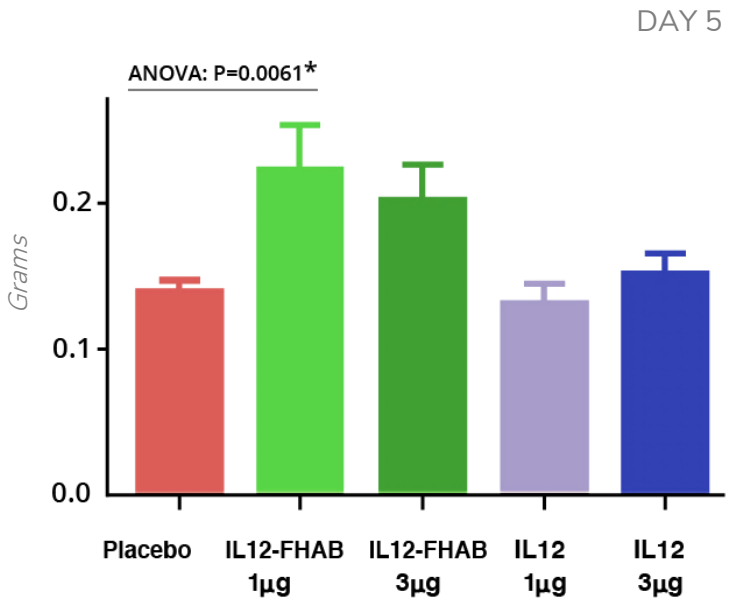
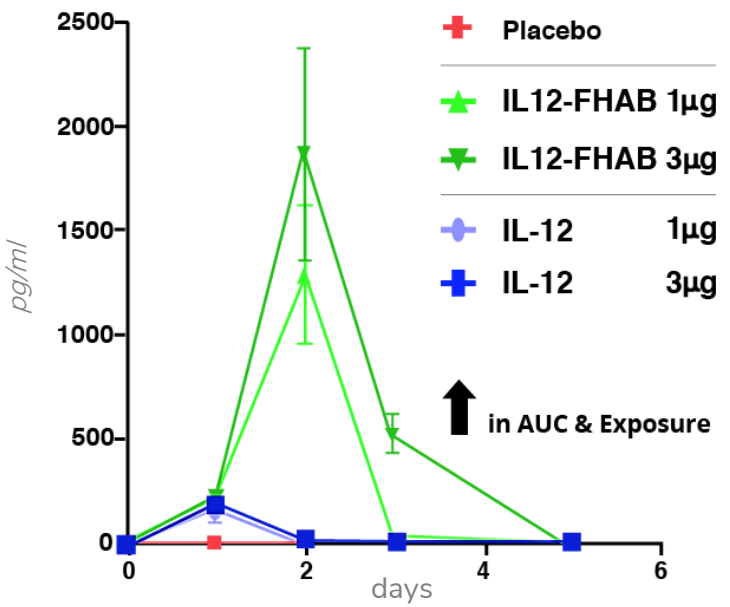
TUMOR WEIGHT



SPLEEN WEIGHT



IFN-γ



Summary

- In the B16F10 melanoma model, IL12-F_HAB is more effective than naked IL-12 in reducing tumor weight at equivalent doses
- Reduction in tumor weight correlates with increase in spleen weight
- IFN-γ levels are ~10x greater with longer bioavailability

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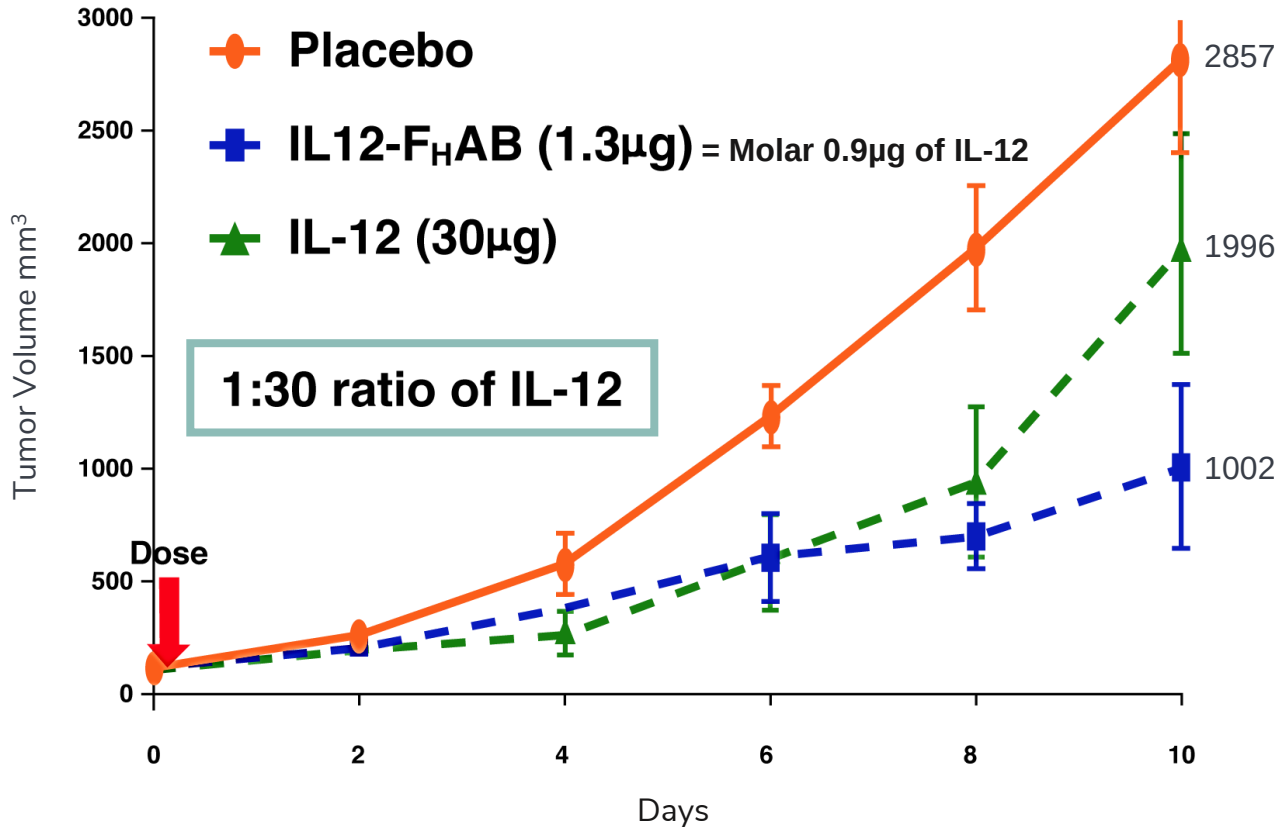
SON-1010: Reduces Tumor Volume

IL12-F_HAB (1.3µg) vs IL-12 (30µg) in B16F10 Melanoma



IL-12 (1µg) and IL12-**F_HAB** (1.3µg) are molar equivalent and have similar bioactivity, *in vitro*; however, *in vivo*, **F_HAB** is approximately 30-fold more potent than IL-12 (at day 10, 1.3µg IL12- **F_HAB** > IL-12 30µg)

PROOF-OF-CONCEPT

Bispecific Synergy

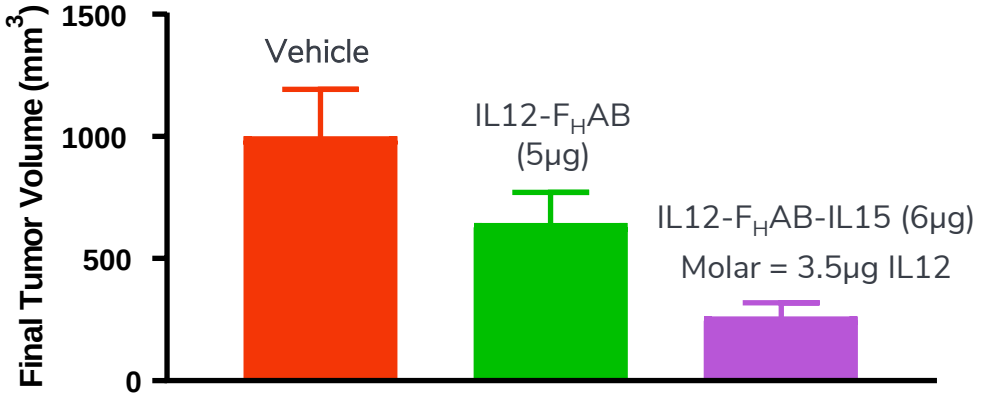
Bispecific IL12-F_HAB-IL15

Sonnet's Bispecific Construct – SON-1210

Synergistic Biologic Activity:

- IL-12: ↑ IL-15 alpha receptor, ↑ IFN, ↑ NK/T cells, ↑ TH1 and ↓ T reg
- IL-15: ↑ IL-12 beta 1 receptor, ↑ NK cells, ↓ CD8 memory loss by apoptosis

Single I.V. Dose @ 100 mm^3 B16F10 Day 8 (n=8)



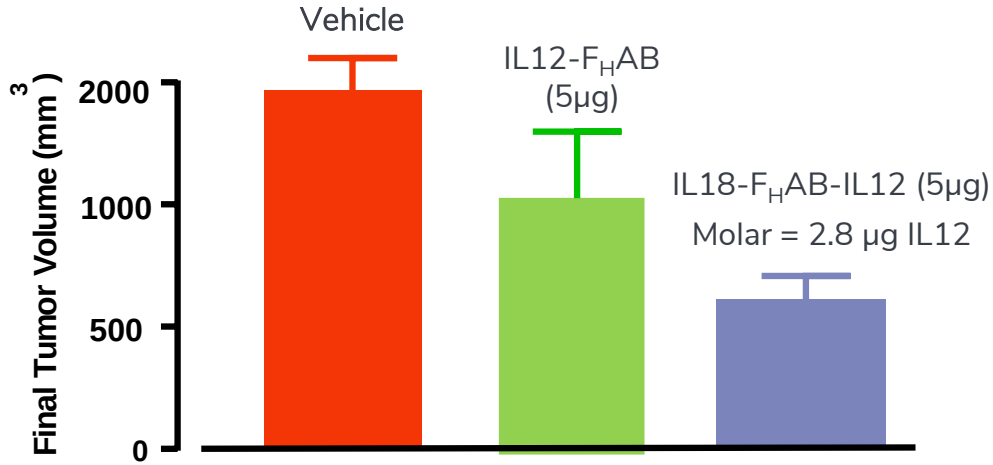
Bispecific IL18-F_HAB-IL12

Sonnet's Bispecific Construct – SON-1410

Synergistic Biologic Activity:

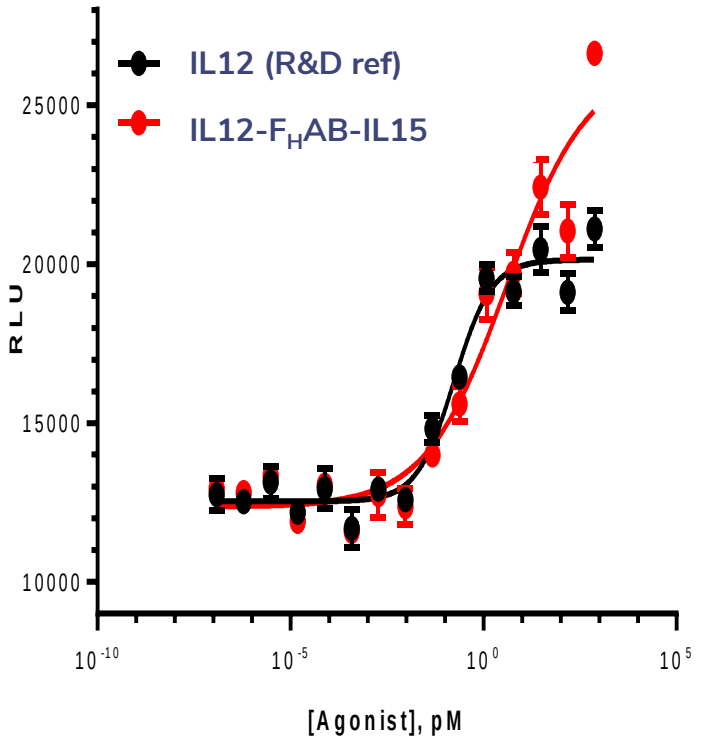
- IL-18: ↑ IL-12 receptor, ↑ IFNγ, ↑ TH1, NK, CD8 cells *infiltrating into tumors – FACS data*
- IL-12: ↑ IL-18 receptor, ↑ IFNγ,
- IL-12 with IL-18 ↑ CXCL9 & CXCL10 by 50-fold

Single I.V. Dose @ 100 mm^3 B16F10 Day 10 Volume (n=6)

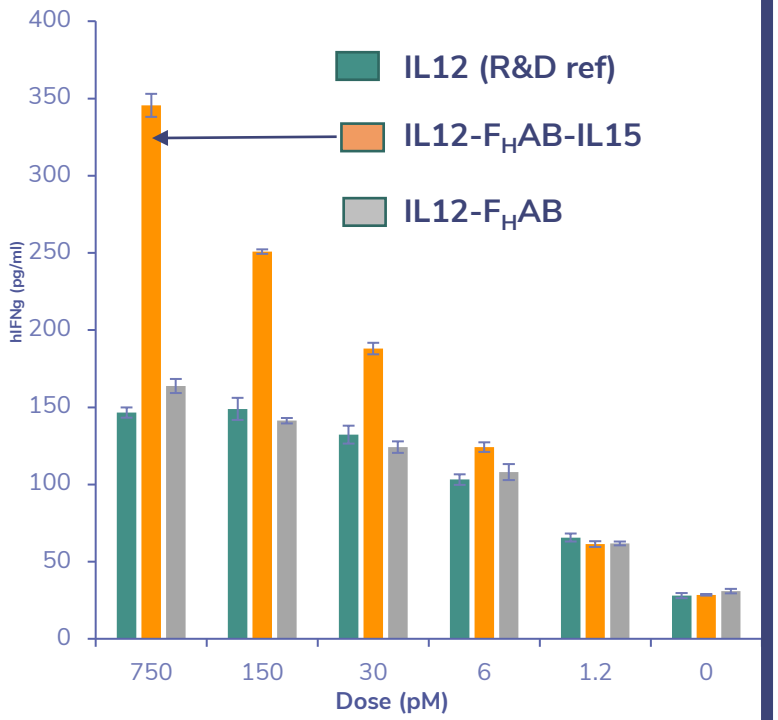


SON-1210: Optimized Bispecific Activity

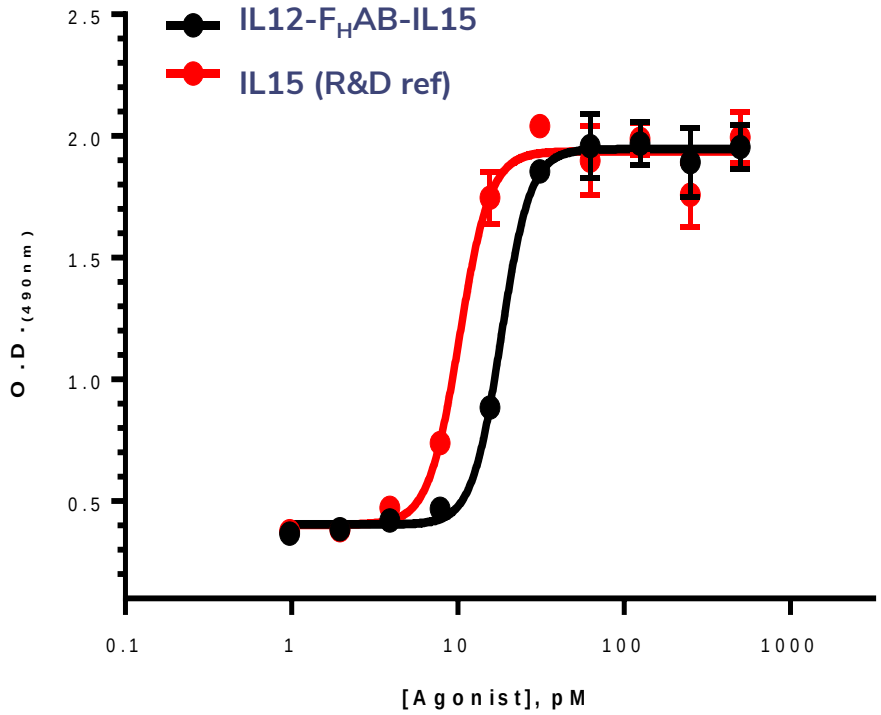
Lymphoblast proliferation assay (IL-12)



IFN-γ release assay (IL-12)



CTLL-2 proliferation assay (IL-15)



- Cell-based assays showed no loss of biological activity for either IL-12 or IL-15, suggesting no steric hindrance of the bispecific construct
- Synergistic effect of IFN-γ production was observed with the IL-12, IL-15 bispecific F_HAB

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Flow Cytometry Analysis

Comparison of Efficacy Tumor & Spleen Immune Cell Type Day 5, TV ~400mm^3	IL12-F_HAB (1µg) Inhibition 37%		IL12-F_HAB-IL15 (5µg) Inhibition 78%		IL18-F_HAB-IL12 (5µg) Inhibition 65%	
	Tumor	Spleen	Tumor	Spleen	Tumor	Spleen
Cell Population						
T cells	0.8	1.0	0.5	0.9	1.2	0.9
CD4+ T Cells	0.8	0.6	1.2	0.5	1.2	0.7
Th1 Cells	**1.6**	1.0	**1.7**	0.8	**3.4**	1.8
CD8+ T Cells	**1.2**	0.8	**1.4**	0.7	**6.5**	0.9
Cytotoxic CD8+, IFNγ	**1.8**	1.5	**3.6**	1.7	**1.8**	1.5
NK Cells	**1.5**	1.1	**3.3**	1.3	**2.5**	1.3
NK Cells, IFNγ	**1.7**	0.6	**6.0**	0.7	**12.0**	2.7
M1 Macrophages	1.4	2.9	1.4	3.0	1.8	3.2
M2 Macrophages	0.2	1.2	0.3	4.0	0.1	3.5
Regulatory (T Reg) Cells	0.9	1.2	0.6	0.8	1.7	1.6

Flow cytometry analysis of interleukin constructs: At Day 5 post single dose, an increase in immune-stimulating cells was observed within tumors, corresponding to a decrease in tumor volume. Also, there was a transition of M2 to M1 in the tumor. IL18-F_HAB-IL12 showed the strongest infiltration of immune cells into the tumor, likely due to the biology of IL-18.

SON-1410: A Novel Bispecific

IL18-F_HAB-IL12 showed statistically significant tumor size reduction versus placebo in a mouse melanoma study, as well as a dose response.

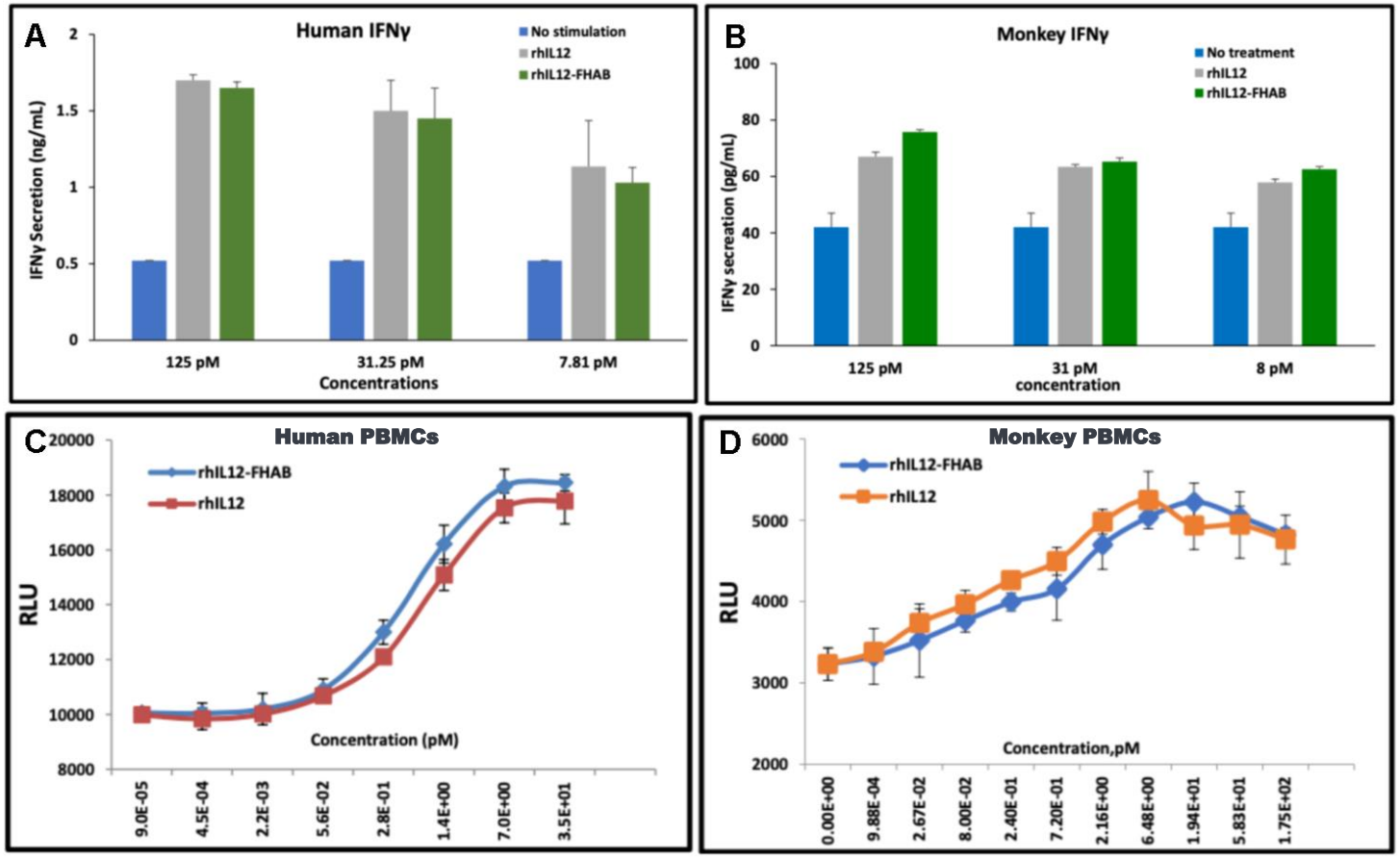
Test Article	Day 0, Single Dose Tumor @ 100 mm^3	Day 8 Tumor Volume (mm^3 ± SEM), N=8	Day 8 Percentage Tumor Shrinkage
Placebo	NA	1747 ± 301	-
IL18-F_HAB-IL12	1 µg	918 ± 130	47%
IL18-F_HAB-IL12	5 µg	619 ± 141	65%

- Synergy between these interleukins, as IL-18 upregulates the IL-12 receptor and IL-12 upregulates the IL-18 receptor
- IL-18 also increase chemokines CXCL9 and CXCL10 for immune cell migration into the tumor
- FACS analysis showed SON-1410 has the potential to make a cold tumor immunologically hot
- Data indicated significantly greater reduction in tumor volume, higher IFN-γ levels and immune cell responses (NK, NKT, Th1, and cytotoxic CD8 T cells), and enhanced infiltration into tumor

Comparable Effects of SON-1010 and rhIL12

IFNγ Release and Proliferation of Human or Monkey PBMCs

Studies of hamster, rat, dog, macaque, and human cells were done to establish a relevant animal tox model. SPR and biopotency results showed that only cynomolgus macaque was an appropriate animal model for safety and PK/PD studies of SON-1010 (IL12-FHAB), compared to rhIL12.



PBMCs were pre-activated with PHA (A-D) and rhIL2 (C&D), then incubated with various doses of IL12-F_HAB or rhIL12

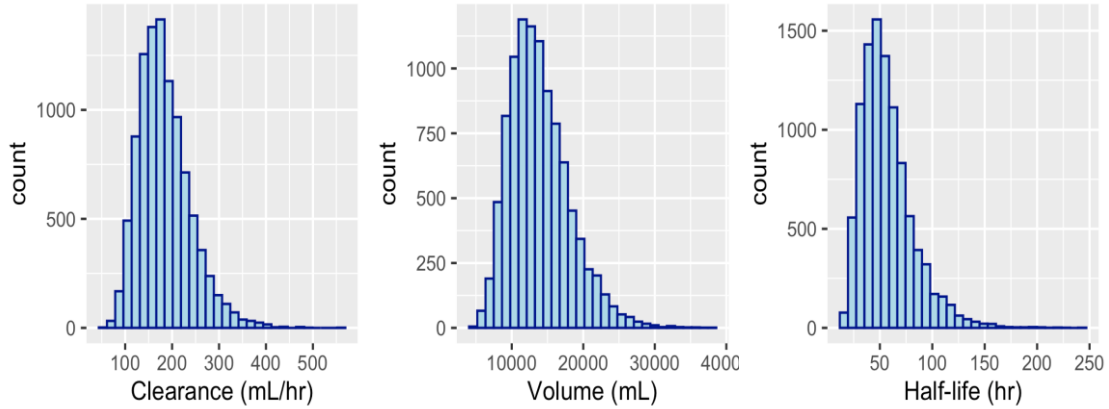
- (A&B) Production of IFNγ in culture supernatants measured by ELISA
- (C&D) Cell proliferation measured by a luminescent assay

SON-1010: Modeling of Human Pharmacokinetics

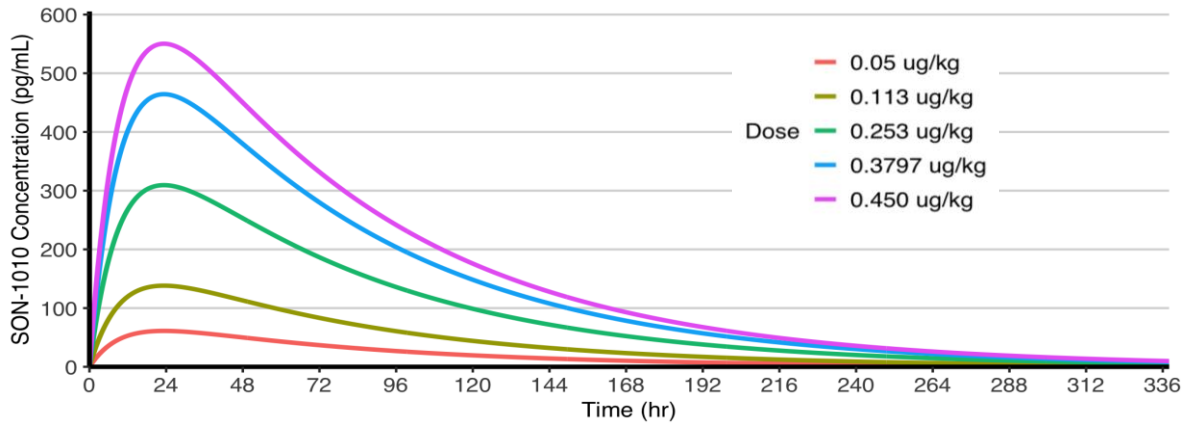
Allometric scaling was used with an uncertainty analysis to estimate human predicted values for clearance (CL) and the central volume of distribution (Vd) using single species scaling.

NHP Mean $t_{½}$ (hr)	NHP Clearance (mL/hr)	NHP Volume (mL)	Clearance Human Pred. (mL/hr)	Volume Human Pred. (mL)	Human Pred. $t_{½}$ (hr)	Mean $t_{½}$ (hr)	Geometric Mean $t_{½}$ (hr)	Median $t_{½}$ (hr)	5th Percentile $t_{½}$ (hr)	95th Percentile $t_{½}$ (hr)
40.0	11.4	523.7	184.1	13,867	52.2	56.9	52.2	52.3	26.2	105.0

An exponent for CL of 0.85 for large protein molecules and an exponent of 1 for the Vd were selected, based on the molecular size of SON-1010.



Uncertainty Approach for Calculating the Half-Life in Humans

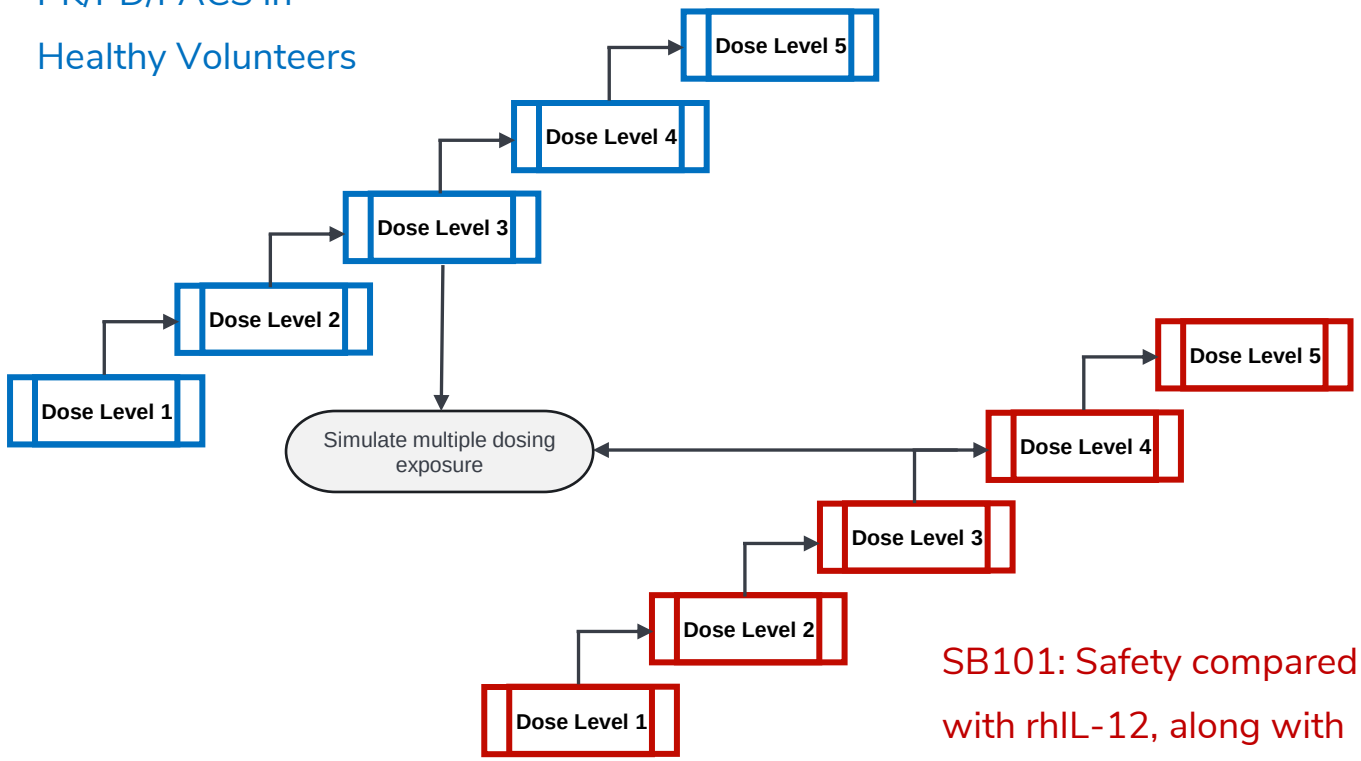


Human Single Dose Simulations

Wang, Biopharm Drug Dispos (2010) 21:253
Tan, Drug Metab Dispos (2007) 35:1886

Clinical Program: SB101/SB102 Study Designs

SB102: SAD for PK/PD/FACS in Healthy Volunteers



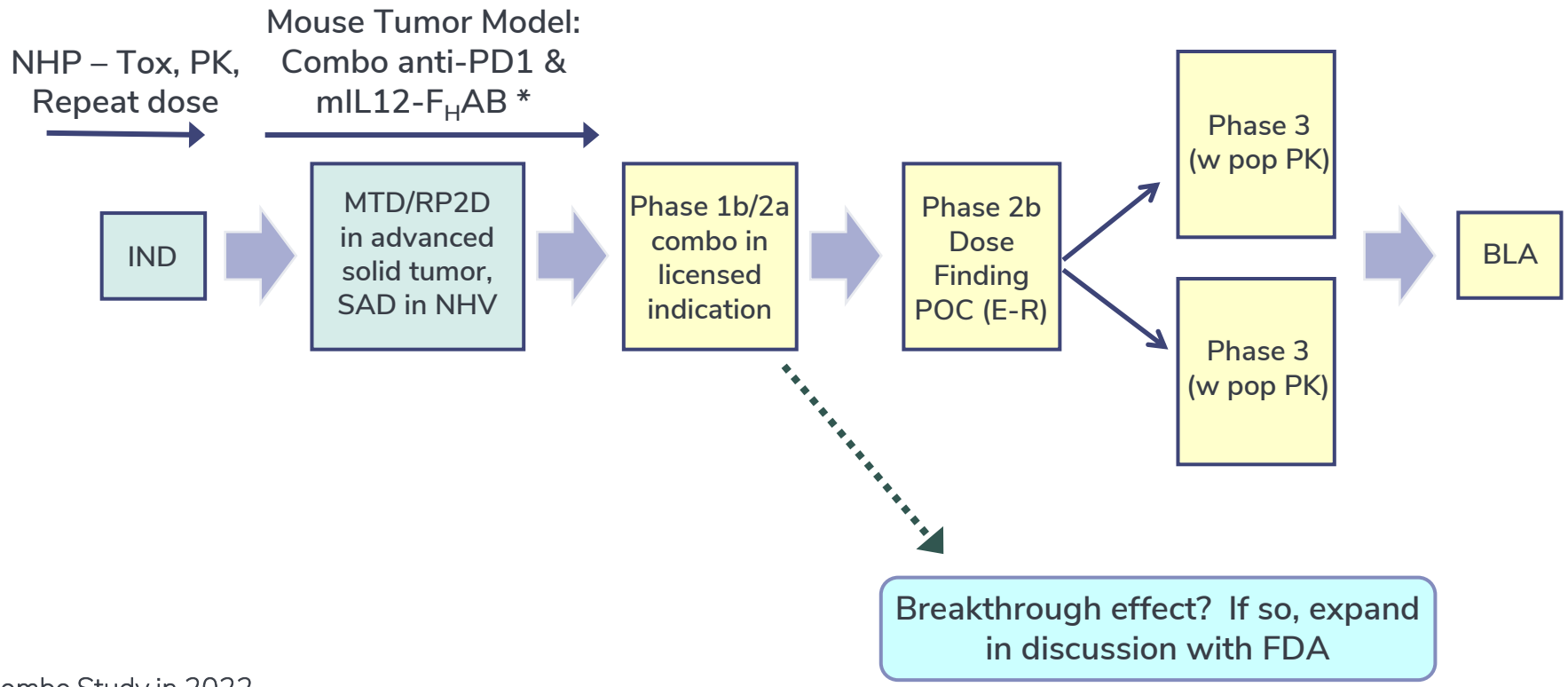
SB101: Safety compared with rhIL-12, along with MTD/RP2D in Cancer

- Rapid enrollment of healthy volunteers in the SAD provides clean PK data without interpretation challenges from prior cancer treatment effects
- Simulation using continual reassessment model allows prediction of safe doses in the MAD that have more potential for effect on the tumor micro-environment, encouraging enrollment
- Clinical pharmacology support and HV SAD allows for much lower cost and faster completion
- MTD/RP2D in solid tumor patients provides path to combination studies

Shen, Clin Transl Sci (2019) 12:6
Karakunnel, (2018) J Transl Med 16:336

SON-1010: Proposed Development Pathway

Core Safety and Efficacy Studies

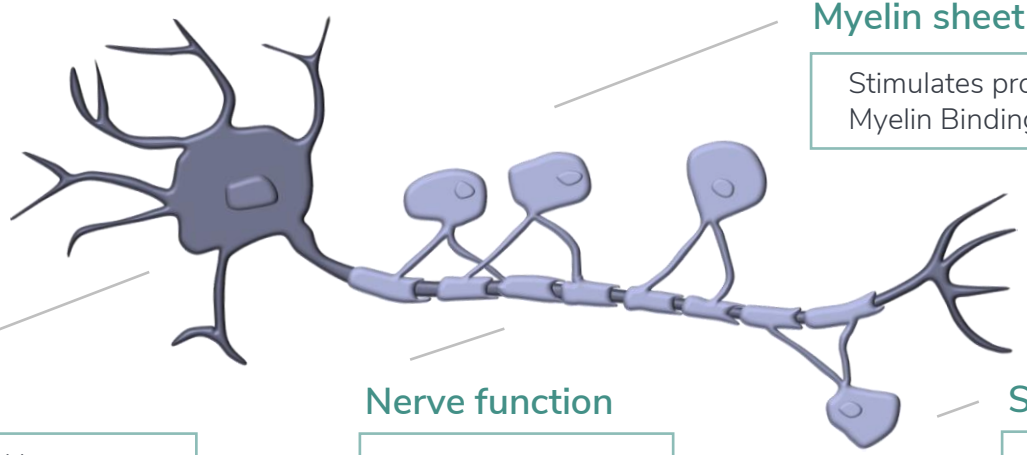


* Initiate Preclinical Combo Study in 2022

SON-080 (LOW-DOSE IL-6)

CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY AND DIABETIC PERIPHERAL NEUROPATHY

IL-6 Is Neurotrophic



Myelin sheet

Stimulates production of Myelin Binding Protein (MBP)

Neuron

Protects Neurons from excitotoxic injury

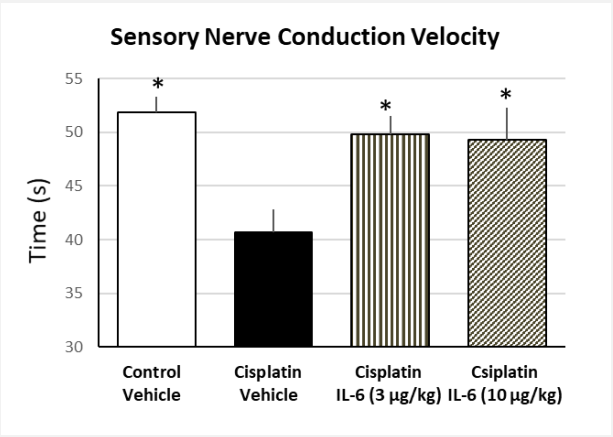
Nerve function

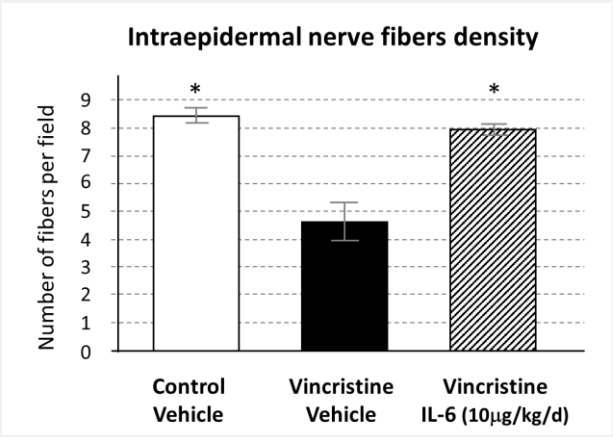
Reinstates nerve conduction velocity

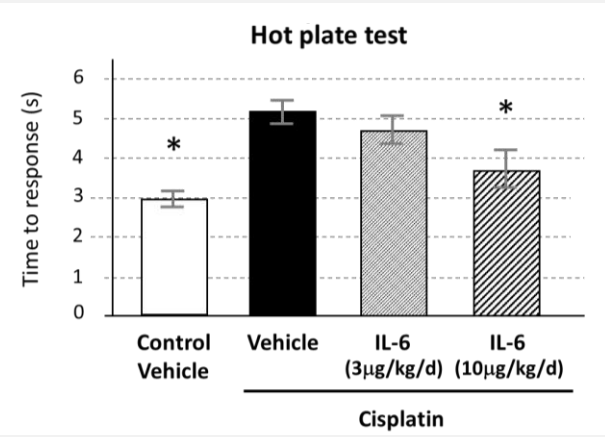
Sensory function

Normalizes sensations

Epidermal Innervation reinstates nerve fiber density







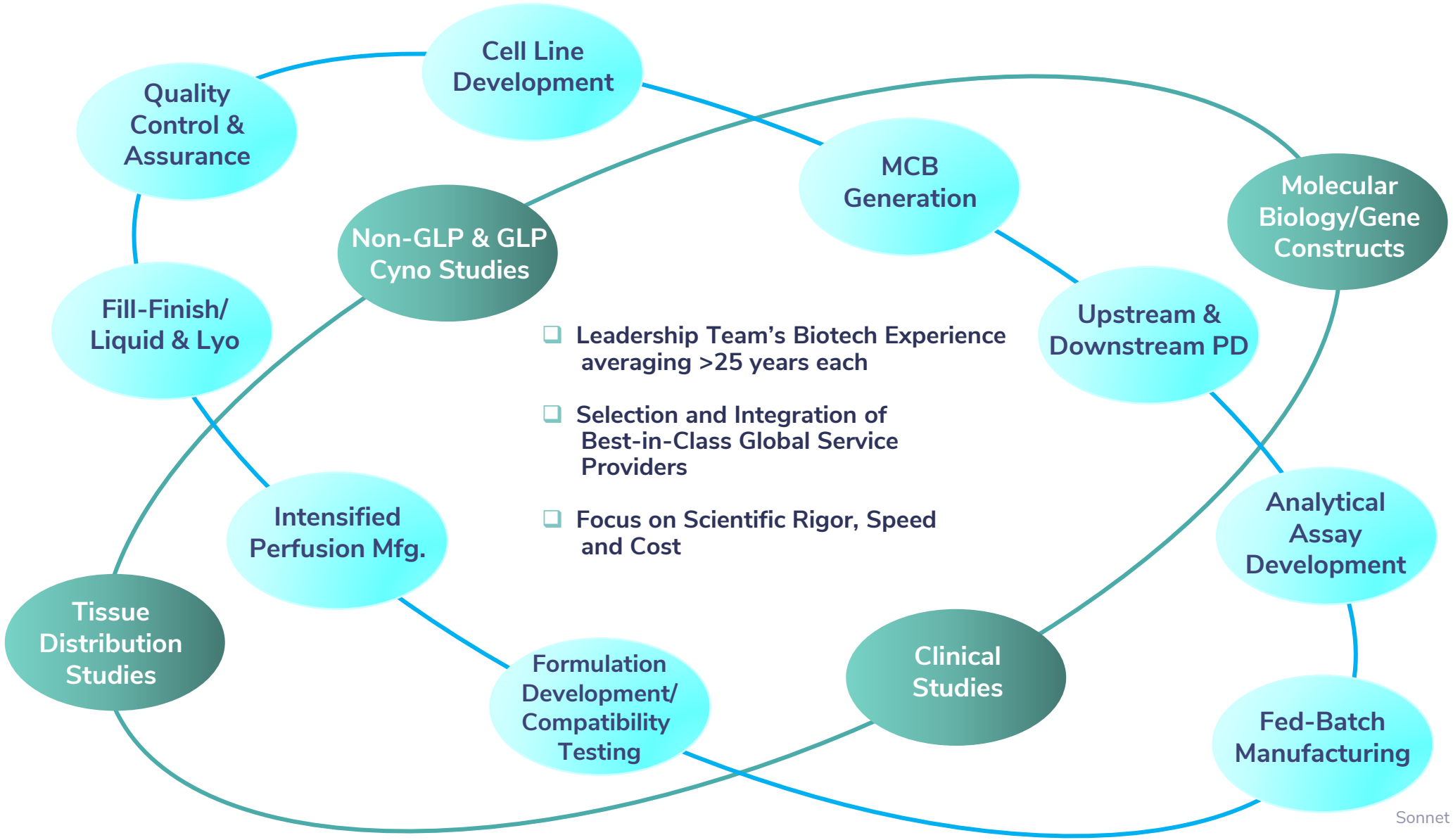
IL-6: Safe and Well Tolerated at the Target Dose

Phase I / II Clinical Data

CONDITION	Thrombocytopenia
PATIENT	n = 213; all types also including Grade III/IV cancer
STUDIES	10 independent Phase I/II studies
CO-TREATMENT	Diverse antineoplastic therapies
DOSES	0.25-32 µg/kg/day, or 5-20 µg/kg/TIW SC
DURATION	Up to 10 weeks

SIDE EFFECT PROFILE	Similar AEs and SAEs to controls, e.g. fever and rigor, headache, vomiting (at target dose range) No exacerbation of pain or neuropathy were observed after IL-6 administration
SAFETY WINDOW	MTD = 5µg/kg/day or 10µg/kg/TIW Doses below 2.5 µg/kg/day were well tolerated Sonnet target dose will be 0.2 – 0.8 µg/kg/TIW, 50 times below the estimated MTD

Sonnet's Product Development Engine



Leveraging Technology to Improve Process Productivity and Product Quality

State-of-the-Art manufacturing technology being deployed to manufacture pipeline cytokines

Intensified perfusion upstream, using integration of Sartorius bioreactor and Repligen ATF technology

Continuous downstream from capture step required to manage proteolytic degradation, using Repligen ATF technology

Corporate Summary

Immune Oncology

Validated targets combined with a proprietary **Fully Human Albumin Binding** (F_HAB) platform

Toxicity

Single dose non-human primate study with **SON-1010** demonstrates tolerability at high doses

Demonstrated *in vivo* POC

- Enhanced pK
- Selectivity to tumor
- Superior efficacy of cytokines while attached to F_HAB as compared to their naked counterparts

Clinical study initiation targets over the next 12 months

SON-1010 (Phase 1 in NHV)
SON-080 (Phase 1b/2a in CIPN)
SON-080 (Phase 2a in DPN)
SON-1210 (Phase 1 in Solid Tumors)

F_HAB Pipeline Expansion

Several novel interleukin-growth factor combinations

Intellectual Property

PCT and US Patents in prosecution, as well as six provisional patents filed (i.e., potential utility with Vaccines, ADCs, Checkpoint Inhibitors and CAR-Ts; Continuous Intensified Perfusion Manufacturing)

US Patent No. 11,028,166, "Albumin Domain Fusion Proteins“, Issued June 2021