

Update on Clinical Programs and R&D Pipeline

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Agenda





Built a robust R&D organization



Innovating from India for the world, SPARC offers operating model validation



Attractive portfolio built using a cost-efficient structure



Over 50% funded through non-dilutive revenue generated



USD 523 mn

Total investment till FY22

USD 277 mn

Revenues re-invested till FY22

With a focus on novel biology as opposed to fast follower approach



 Increasing proportion of programs focusing on novel biology (potential first-inclass)

- Investments in new modalities/complex platforms is now translating to tangible programs
- Continued development of best-in-class assets for validated targets
- Collaboration with external innovators as a key tenet of strategy to access early science







First-in-class innovation in three therapy areas



With 70% of the preclinical pipeline targeting novel hypotheses

Neurology Oncology Immunology Areas of Restoring cellular function in Modality-agnostic, Pursuing novel interest the CNS to modify diseasetargets in immune tumor-targeted cells and inflamed course by: strategies to Modulating oxidative stress address indications tissues to modulate that have limited inflammatory response Improving autophagic flux conditions treatment options Preventing misfolded protein aggregation **SCC-138 SBO-154 SCD-153** Lead FIC Internally developed In-licensed anti-Collaboration with Program NCE - vodobatinih MUC-1 antibodies Johns Hopkins from Biomodifying LLC University Selective c-ABL NCE targeting a novel O Developed antibodyinhibitor with good brain penetration and drug conjugate asset pathway to address for solid tumors superior safety for alopecia areata Parkinson's Disease (PD) Currently in IND-Currently in IND-Currently in a Phase 2 enabling preclinical enabling preclinical clinical study development development

Expected cash inflow from warrants conversion



Cash runway till FY24, with potential extension from milestones and royalties





Sezaby*: benzyl alcohol-free phenobarbital injection for neonatal seizures



Sezaby as a trade name is conditionally accepted by the USFDA





Several high-yield assets graduating to next set of data events in the short term

Sharp execution focus to deliver key updates in the next 18-24 months



Pipeline overview & key upcoming milestones



Neurology Oncology Im

Immunology

sparc



Clinical Programs Siu-Long Yao



Vodobatinib in CML (SCO-088)

A safer, last-line option for heavily pre-treated patients

Vodobatinib for CML (SCO-088)



Potent and selective inhibitor of BCR-ABL1



Vodobatinib (SCO-088) MAD study outcome



Major Cytogenetic Response (MCyR) rate more than doubles in CP-CML patients treated with vodobatinib



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Vodobatinib (SCO-088) MAD study outcome



Twenty-fold improvement in Major Molecular Response (MMR) rate in CP-CML patients treated with vodobatinib





Vodobatinib (SCO-088) MAD study outcome

Excellent efficacy and safety



Next steps



Additional data to be presented at upcoming clinical conferences: the 2022 ESH John Goldman Conference and the 2022 ASH Annual Meeting Pivotal study readout in FY24



Vodobatinib for Neurodegenerative diseases (SCC-138)

A potential firstin-class disease modifying therapy targeting c-Abl

c-Abl: a critical component of neurodegeneration



Substantiated by multiple research groups

- O Ubiquitous expression in nucleated cells
 - Expressed in all parts of the CNS (brain and spinal column, and peripheral neuronal tissue)
- Pivotal role in promoting neurodegeneration
 - Under oxidative stress, c-Abl is activated and phosphorylates a number of key substrates that bring about programmed death of oxidatively-stressed neurons

c-Abl and Parkinson's Disease: Mechanisms and Therapeutic Potential

Saurav Brahmachari^{a,b,f,1}, Senthilkumar S. Karuppagounder^{a,b,f,1}, Preston Ge^{a,b,f,1}, Saebom Lee^{a,b}, Valina L. Dawson^{a,b,c,d,f,*}, Ted M. Dawson^{a,b,d,e,f,*} and Han Seok Ko^{a,d,g,*}

Activation of tyrosine kinase c-Abl contributes to $\alpha\mbox{-synuclein-induced}$ neurodegeneration

Saurav Brahmachari, ..., Ted M. Dawson, Han Seok Ko

c-Abl Inhibitors Enable Insights into the Pathophysiology and Neuroprotection in Parkinson's Disease

Dan Lindholm ^1.2*, Dan D. Pham ^1.2, Annunziata Cascone ^1, Ove Eriksson ^1, Krister Wennerberg ^3 and Mart Saarma ^4

c-Abl phosphorylates α -synuclein and regulates its degradation: implication for α -synuclein clearance and contribution to the pathogenesis of Parkinson's disease

Anne-Laure Mahul-Mellier¹, Bruno Fauvet¹, Amanda Gysbers³, Igor Dikiy⁴, Abid Oueslati¹, Sandrine Georgeon², Allan J. Lamontanara², Alejandro Bisquertt⁵, David Eliezer⁴, Eliezer Masliah⁵, Glenda Halliday³, Oliver Hantschel² and Hilal A. Lashuel^{1,+}



Vodobatinib improved motor and cognitive function in the PFF-induced mouse model¹

Vodobatinib at 45 mg/ kg improves PFF-induced movement disorderrelated deficits in Turning Time and Descending Time in the Pole test

Vodobatinib

treatment improves

PFF-induced deficits

in Grip Strength



Grip Strength: Fore Limbs







Grip Strength: All Limbs





Vodobatinib protects dopaminergic neurons in the AAV mutant α -synuclein (hA53T) rat model – dopamine transporter expression



- Vodobatinib treatment protects against dopaminergic neuronal loss measured by radiolabeled ¹²⁵I labeled RTI-121 binding in the striatum
 - Comparison of un-operated left hemisphere (L) and operated right hemisphere (R, injected with & expressing the AAV) shows that 45 mg/kg dose provides protection of dopaminergic neurons

Vodobatinib for PD (SCC-138)



Recruitment on track to achieve enrollment target in PROSEEK



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Opportunities beyond PD: Lewy Body Dementia

Recruitment ongoing in an investigator-initiated clinical trial at Georgetown University



- Recruitment ongoing in a 12-week Phase 2 study in collaboration with Georgetown University
- **o** 50% patients randomized

- Safety and tolerability being evaluated as a primary outcome
- Concentration of LBD-related plasma and CSF biomarkers form the set of secondary outcome measures

Next steps





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Vibozilimod (SCD-044) – A selective S1PR1 agonist

A safer alternative to JAK inhibitors

Vibozilimod (SCD-044) for Psoriasis and Atopic Dermatitis



An opportunity to improve oral standard-of-care in dermatology

Vibozilimod is a Best-in-Class S1PR1 modulator with excellent safety

S1PR1 Modulator Landscape

- Fingolimod is the first-in-class S1PR agonist approved, but not suitable for some indications because of safety concerns
- Multiple S1PR1 modulators are approved (siponimod and ozanimod) for non-dermatology indications; vibozilimod has opportunity to lead the field in dermatology
- Recent safety concerns related to JAK inhibitors increase the significance of S1PR1 agonists as a 'class alternative' in several autoimmune disorders, particularly in dermatology

Vibozilimod (SCD-044)

- Developed in collaboration with a French biotech company, Bioprojet. SPARC in-licensed Bioprojet's share of IP in 2019
- Highly-selective for S1PR1 over S1PR2 and S1PR3, which can be associated with serious side effects
- Established preclinical and early clinical validation
- Currently targeting atopic dermatitis, psoriasis and other autoimmune disorders
- Potential synergy with other mechanisms in IBD
 like IL-23 blockade

Vibozilimod (SCD-044) for Psoriasis



Phase 2 study design







Vibozilimod (SCD-044) for Atopic Dermatitis

Phase 2 study design



Primary endpoint – Proportion of patients with EASI-75 response at week 16

- 240 Patients across three dose levels and placebo. Currently in early stage ramp-up
- Study now open in the US. Expected to expand to Latin America and Europe to accelerate in the coming months



SCO-120 for HR⁺/ HER2⁻ MBC

An oral SERD with brain penetration

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Current treatment paradigm

Dominated by endocrine therapy except in patients with visceral disease



Fulvestrant is currently the only SERD available for patients failing 1L setting

- It is limited by intramuscular (IM) administration and its inability to address mutations
- Elacestrant phase 3 study met its co-primary endpoints of improved PFS in patients with wild type and mutant disease in 2nd line patients.

CDK4/6i has emerged as the gold standard in 1L but requires an endocrine backbone

• SERDs in development have the potential to become that backbone

SCO-120: Oral SERD for HR⁺/HER2⁻ MBC



Clinical study design

	Single Dose	e Ascending (Part A)	Food Effect (Part B)	Multiple Ascending Dose (Part C)				
Phase 1 Healthy Volunteer Study Design	Double blind, placebo controlled, single oral dose		Open label, two period, cross over, single dose, fast/fed study	Double blind, placebo controlled, once daily, 14 day repeat dose				
	Multiple Ascending Dose study							
Phase 1 Patient study	HR ⁺ /HER2 ⁻ metastatic breast cancer patients that have failed at least 1 prior endocrine therapy and no more than 3 prior chemotherapy treatments							
Dose escalation (MTD/RP2D, safety) (N~44)		MTD/RP2D reached	 → Dose expansion (Safety & Preliminary efficacy) (N~105) Part a: ESR1 mutations Part b: Resistant to AI ± CDK4/6i Part c: Resistant to AI & Ful+ CDK4/6i Part d: Secondary brain metastases to breast cancer 					

Next steps







Biologics Nitin Damle



SBO-154 (Anti-MUC-1 ADC)

Targeting an antigen expressed in a wide spectrum of tumors

SBO-154: Anti-MUC-1 ADC

Novel approach to target α/β complex, with an opportunity to target multiple tumor types

- Tumor agnostic opportunity in-licensed from Biomodifying LLC^{*}
- MUC-1 expressed extensively in majority of tumors
- Preclinical PoC of anti-tumour efficacy of anti-MUC-1 targeted ADC established
- Most anti-MUC-1 mAbs under development target VNTR in the MUC-1α
 - Circulating MUC-1α in plasma and in peritumoral space block meaningful tumor targeting by MUC1α-targeted therapies
 - Primary reason for the lack of efficacy
- No directly competing agents targeting α /β junction
- Potential to be an anchor for other constructs like bi-specific/multi-specific antibodies, naked mAb, etc.







Anti-MUC-1 mAbs* internalize in pancreatic carcinoma cells



Red fluorescence is associated with anti-MUC-1 antibody, green fluorescence is associated with anti-human Fc-γ antibody & Hoechst dye stains nucleus and is blue in colour

SBO-154 strongly inhibits growth of MUC-1 expressing tumors

Established in subcutaneous pancreatic carcinoma xenografts



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SBO-154 causes regression of large tumor mass xenografts of a pancreatic carcinoma cell line



Next steps







Preclinical NCE Program Vikram Ramanathan



SCD-153 for Alopecia Areata

A potential first-in-class opportunity in an autoimmune disease with significant unmet need



Alopecia Areata – Autoimmune disease causing hair loss

Hair follicles lose immune privilege and they move into Telogen (resting) phase



Clinical manifestations of Alopecia Areata



Alopecia Areata is characterized by

- Rapid progression of hair follicle from anagen (growing) phase to catagen (transition) phase to telogen (resting) phase
- O Collapse in immune privilege in hair follicle bulb
 - CD4⁺ and CD8⁺ T cells infiltrate and damage the hair bulb
 - NKG2D positive CD8+ T cells are the major effectors of hair follicle damage
 - Alters normal hair growth cycle and causes hair to fall out
- O However, the hair follicle structure and stem cells are preserved, suggesting potential for hair growth





SCD-153 stimulates hair growth in animal models

C57BL/6 telogen - anagen alopecia model



Female mice, 8.5 weeks, Dorsal hair clipped. Treated on right side, left side is untreated. QOD: every other day

- SCD-153 stimulates robust hair growth after 2 doses given on alternate days
- Promotes re-entry into anagen possibly via activation of stem cells at the base of the hair follicle

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SCD-153 stimulates hair growth in animal models



Next steps







Financial Update Chetan Rajpara



Financial summary

Year	FY18	FY19	FY20	FY21	FY22	Q1FY23			
USDINR	64.46	69.95	70.91	74.23	74.49	77.16			
INR C									
Total Income	83	196	87	258	144	29			
Total Expenses	329	342	399	410	347	111			
Exceptional Item	49	-	-	-	0	0			
Profit / (Loss) after Tax	(197)	(145)	(312)	(151)	(203)	(82)			
						USD Mn			
Total Income	12.9	28.1	12.2	34.8	19.3	3.7			
Total Expenses	51.1	48.9	56.3	55.2	46.6	14.4			
Exceptional Item	7.6	-	-	-	-	-			
Profit / (Loss) after Tax	(30.6)	(20.8)	(44.1)	(20.4)	(27.3)	(10.7)			

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Cash and liquidity



- Issued convertible warrants for Rs. 1,112 Cr (~USD 148 Mn) in July 2021 by way of preferential issue
- Received Rs. 409 Cr (~USD 55 Mn) being 25% payable on application & upon conversion of warrants
- Balance Rs. 703 Cr (~USD 93 Mn) to be received by Dec 2022 upon conversion of warrants by investors
- Line of credit from parent company Rs. 250 Cr (~USD 31 Mn) and bank facility for Rs. 245 Cr (~USD 31 Mn) in place, of which Rs. 183 Cr (~USD 23 Mn) is utilized as on Sept 30, 2022
- Obtained shareholders' fresh approval in Sep 2022 for raising additional sum up to Rs. 1,800 Cr (~USD 225 Mn) by way of issuance of fresh equity or debt



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