UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of report (Date of earliest event reported): January 11, 2022

Verastem, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware 001-35403 27-3269467 (State or Other Jurisdiction (Commission File Number) (IRS Employer Identification No.) of Incorporation) 117 Kendrick Street, Suite 500, Needham, MA 02494 (Address of Principal Executive Offices) (Zip Code) Registrant's telephone number, including area code: (781) 292-4200 (Former Name or Former Address, if Changed Since Last Report) Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions: □ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 □ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 □ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 □ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c)) Securities registered pursuant to Section 12(b) of the Act: Name of each exchange on which registered Common stock, \$0.0001 par value per share The Nasdag Global Market Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company \Box If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. \Box

Item 7.01. Regulation FD Disclosure

On January 11, 2022, Verastem, Inc. posted its corporate presentation on its website, a copy of which is furnished hereto as Exhibit 99.1.

Item 8.01. Other Events

On January 11, 2022, Verastem, Inc. issued a press release outlining key 2022 strategic priorities and upcoming catalysts for advancing VS-6766 as a backbone of therapy for RAS pathway-driven cancers. A copy of the press release is filed hereto as Exhibit 99.2.

Item 9.01. Financial Statements and Exhibits

Exhibit No.	Description
99.1	Corporate Presentation, dated January 11, 2022
99.2	Press Release, dated January 11, 2022
104	Cover Page Interactive Data File (formatted in Inline XBRL and contained in Exhibit 101)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

VERASTEM, INC.

Dated: January 11, 2022

By: /s/ Brian M. Stuglik
Brian M. Stuglik
Chief Executive Officer



Safe Harbor Statement

This presentation includes forward-looking statements about, among other things, Verastem Oncology's programs and product candidates, including anticipated regulatory submissions, approvals, performance and potential benefits of Verastem Oncology's product candidates, that are subject to substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Applicable risks and uncertainties include the risks and uncertainties, among other things, regarding: the success in the development and potential commercialization of our product candidates, including defactinib in combination with VS-6766; the occurrence of adverse safety events and/or unexpected concerns that may arise from additional data or analysis or result in unmanageable safety profiles as compared to their levels of efficacy; or our ability to obtain, maintain and enforce pater and other intellectual property protection for our product candidates.

Additional information regarding these factors can be found in Verastem Oncology's Annual Report on Form 10-K for the fiscal year ended December 31, 2020 and in any subsequent filings with the SEC, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors that May Affect Future Results," as well as in our subsequent reports on Form 8-K, all of which are filed with the U.S. Securities and Exchange Commission (SEC) and available at www.sec.gov and www.verastem.com.

The forward-looking statements in this presentation speak only as of the original date of this presentation, and we undertake no obligation to update or revise any of these statements.



We are a biopharmaceutical company committed to developing and commercializing new medicines for patients battling cancer

Verastem Oncology Well Positioned to Capitalize on Growth Opportunities

New lead clinical program has best-in-class potential

VS-6766 (RAF/MEKi) and defactinib (FAKi) are clinically active against RAS mutant cancers

Rapid development paths to market

FDA Breakthrough Therapy Designation in LGSOC; Supported by clinical results achieved in low-grade serous ovarian cancer (LGSOC), strong signal in KRAS G12V mutant NSCLC; registration-directed trials initiated in 4Q 2020

Significant downstream market opportunity and blockbuster potential

30% of all human cancers are driven by mutations in RAS; VS-6766 combinations potentially broadly applicable across a variety of tumor types.

Clinical collaborations with Amgen & Mirati evaluating the combinations of VS-6766 with sotorasib & adagrasib, respectively, in KRAS G12C mutant NSCLC supported by strong pre-clinical rationals

Strong balance sheet

Cash Balance of \$103.4 million, as of September 30, 2021

Debt reduced from approx. \$185M to \$0M (2019-2021)

Annual operating expense of approximately \$55-60 million for 2021

Key VSTM Milestones 2021-2022 1H2021 2H2021 IQ2022 2Q2022 2H2022 Retired **Outstanding Debt Corporate** RAMP-201 RAMP-201 Top-Line Data from Selection Amended to Include KRAS wt patients in Selection Phase RAMP-201 Target Updated data from FRAME Phase enrollment of Selection Phase RAMP-201 Complete LGSOC cohort enrollment of Expansion Phase **LGSOC** Complete Initiated enrollment of Expansion Phase Presenting at Translational data FDA Breakthrough ESMO from FRAME Therapy Designation LGSOC cohort presented **RAMP-202 Complete** Initiate RAMP-204 (VS-6766 + adagrasib) in KRAS G12C (Mirati) Top-Line Data fron RAMP-202 Selectio Phase VS-6766 + Sotorasib enrollment of Selection Phase Updated data from FRAME NSCLC Collaboration w/Amgen **NSCLC** cohort Presented at AACR Initiate RAMP-203 Top-Line Data from VS-6766 + everolimus in KRAS mt VS-6766 + Adagrasib Collaboration (VS-6766 + sotorasib) in KRAS G12C Initial readout of RAMP 203 data (Amgen) w/Mirati Initiate combo study of VS-6766 + Initiate combo stud of VS-6766 + pembrolizumab in BRAF mt melanom Initiate combo study of VS-6766 + cetuximab in KRAS mt CRC **Additional** abemaciclib and fulvestrant in ER+ Indications*

*Investigator-sponsored research

VERASTEM



VS-6766 is a differentiated, best-in-class asset potentially applicable across multiple patient populations

- Unique dual RAF/MEK targeting mechanism of action
- Best-in-class safety & tolerability profile relative to marketed MEK inhibitors, with potential for combinability with agents from multiple target classes
- · Novel intermittent dosing schedule; convenient oral regimen
- Promising signals of clinical activity in various RAS-driven cancers, including in patients whose tumors previously
 progressed on other MEK inhibitors
- Preclinical anti-proliferative activity across multiple MAPK pathway alterations (e.g. KRAS, NRAS, BRAF, NF1 mt) and multiple solid tumor indications
- Strong preclinical combination data with other agents targeting RAS pathway and parallel pathways



High Priority Lead Indications with Multiple Growth Opportunities

High Priority Registration Indications

Registration-Directed Trials Initiated in 4Q20

- LGSOC^{1,2} (RAMP 201)
- KRAS G12V mt NSCLC^{1,2} (RAMP 202)

Signal Finals Clinical Finals VS-6766

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Selection

Signal Finding

- VS-6766 + G12Ci KRAS G12C mt NSC (RAMP 203-sotorasib) & (RAMP 204-ac
- Pancreatic^{1,2} (10 pt cohort initiated)
- KRAS mt endometrioid¹ (10 pts initiate
- Uveal Melanoma² (IST initiated)
- VS-6766 + Everolimus KRAS mt NSCL(

RAS Pathway Dependent Cancers

- Gynecological^{1,2}
- NSCLC^{1,2}
- Colorectal^{1,2}
- Melanoma^{1,2}
- Pancreatic²



Supported by clinical data

² Supported by preclinical data

Biomarker Selection

- KRAS mt^{1,2}
- BRAF mt (V600 & non-V600)^{1,2}
- NRAS mt^{1,2}
- CRAF mt/fusions²

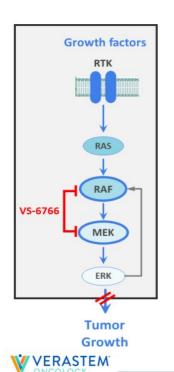
Rational Combinations

- Anti-EGFR²
- SOSI or SHP2 inhibitor²
- CDK4/6 inhibitor²
- Anti-PD-I^{1,2}
- G12Ci^{1,2}
- Everolimus^{1,2}

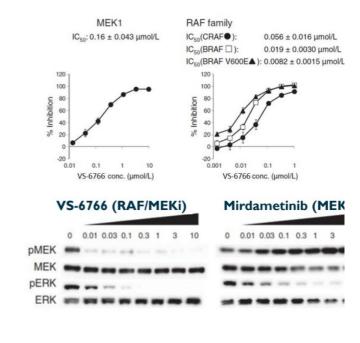
Robust Pipeline Targeting the RAS Pathway and Multiple Growth Opportunities



VS-6766 is a Unique Small Molecule RAF/MEK Clamp

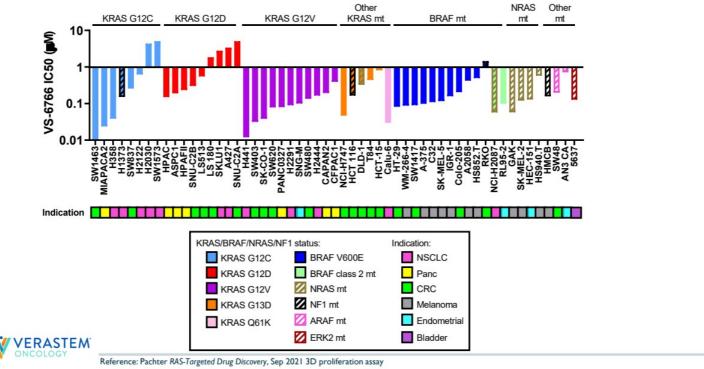


- VS-6766 inhibits both MEK & RAF kinase activities by trapping them in inactive complexes
- MEK inhibitors paradoxically induce MEK phosphorylation (pMEK) by relieving ERK-dependent feedback inhibition of RAF
- By inhibiting RAF phosphorylation of MEK, VS-6766 has advantage of not inducing pMEK
- VS-6766 inhibits ERK signaling more completely; may confer enhanced therapeutic activity

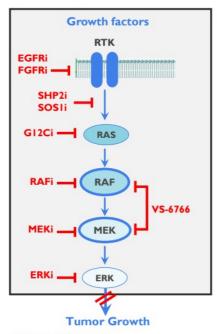




VS-6766 inhibits cell proliferation across multiple MAPK pathway alterations and multiple solid tumor indications



Vertical Blockade: Establishing VS-6766 as the backbone of therapy for RAS pathway-driven tumors



Current Challenges

- Blocking any single target in the pathway is insufficient for maximum depth and duration of anti-tumor efficacy
 - e.g., SHP2i, KRAS-G12Ci, RAFi, MEKi, ERKi
- · Vertical blockade concept is now well established
 - Necessary to block more than I target in the pathway
- Many of these agents (e.g., SHP2i, MEKi) have poor tolerability as monotherap and in combination

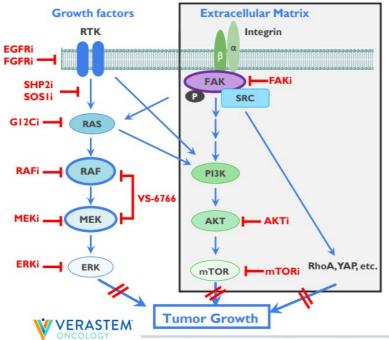
Solutions offered by VS-6766

- · Vertical blockade (RAF and MEK blockade) in a single drug
- · Best-in-class tolerability with established twice weekly dosing regimen
 - · Should enable tolerable combinations
- Compelling synergy data (preclinical) for VS-6766 combinations (e.g., with KRAS-G12C inhibitors) supporting clinical combinations



References: ¹ Chen, Mol Cancer Res 2018; ² Banerji, BTOG Dublin, Jan 23, 2019

Parallel Pathway Inhibition: Establishing VS-6766 as the backbone of therapy for RAS pathway-driven tumors



Current Challenges

- Blocking Ras pathway can be circumvented through parallel pathways
 - e.g., PI3K/AKT/mTOR, FAK, RhoA, YAP
- Combinations of MEKi + AKTi have shown poor tolerability

Solutions offered with VS-6766

- Good tolerability with twice weekly VS-6766 opens up intermittent dosing options for combinations
- Compelling preclinical synergy data with VS-6766 ir combination with FAK inhibition and with AKT pathway inhibition (e.g., everolimus)
- RP2D established for VS-6766 + defactinib and for VS-6766 + mTORi (everolimus) with twice weekly regimen

References: ¹ Chen, Mol Cancer Res 2018; ² Banerji, BTOG Dublin, Jan 23, 2019



Favorable Tolerability Profile with Novel Intermittent Dosing Regimen

Summary of Adverse Events Grade ≥ 3 Occurring in ≥ 5% of patients

	VS-6766 monotherapy Daily at MTD N=6 28-day cycle	RP2D VS-6766 monotherapy 4mg twice weekly N=26 28-day cycle	RP2D (VS-6766 3.2mg twice weekly + defactinib 200mg twice daily) N=38 21 days of 28-day cycle
Treatment Related Adverse Event	Grade ≥3	Grade ≥3	Grade ≥3
Rash	3 (50%)	5 (19%)	2 (5%)
CK elevation (Creatine phosphokinase)	1 (17%)	2 (8%)	2 (5%)

Summary of FRAME Safety Profile

Most Adverse Events (AE) were Grade 1/2

Few patients have discontinued due to AEs in the study



¹ Chenard-Poirier, et al. ASCO 2017 References: Banerji, Q4 2020 report; Data on file RP2D: recommended phase 2 dosing

Favorable Tolerability Profile at Recommended Phase 2 dose for VS-6766 plu defactinib combination regimen

Treatment Related Adverse Events Details* (≥10% patients in cohort 3.2mg 6766 and Def 200mg)	VS-6766 4mg Twice Weekly (4 wks of every 4 wks) ¹ n=22		VS-6766 3.2mg Twice Weekly Def 200mg BID (3 wks of every 4 wks) ² n=38	
	GrI/2	Gr3/4	GrI/2	Gr3/4
Rash	15	5	32	2
CK Elevation	13	2	19	2
AST Elevation	I		13	
Hyperbilirubinemia			14	1
Visual Disturbance	13		9	
ALT Elevation	2		5	
Diarrhoea	6	1	14	1
Fatigue	5	1	8	1
Oral Mucositis [^]	7	1	11	
Nausea	5		5	
Vomiting	2		4	
Peripheral Edema	9		10	
Paronychia	3		4	
Thrombocytopenia			6	
Pruritus	3	0	5	

Summary of FRAME Safety Profile

- Most Adverse Events (AE) were Grade 1/2
- Few patients have discontinued due to AEs in the study

RP2D

- VS-6766 3.2 mg oral twice wkly (3 wks of every 4 wks)
- Defactinib 200 mg oral BID (3 wks of every 4 wks)

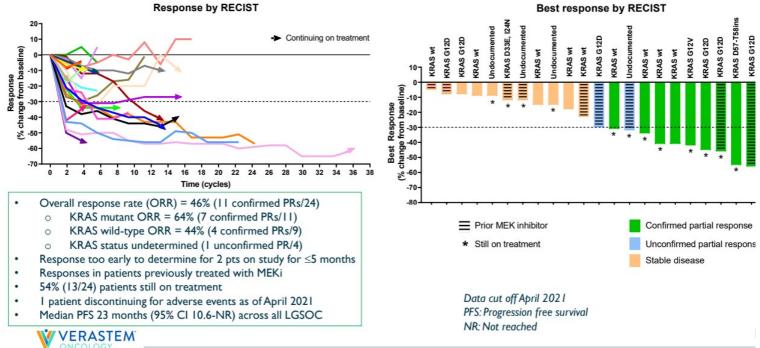
*AEs were graded by NCI CTC v4; highest grade only recorded for each patient; AEs presented in ≥10% Patient (cohort 3.2mg 6766 and De 200mg) data preliminary and subject to change;

^also includes glossitis/mouth ulcers



References: 1 Data on file VS-6766 Investigator's Brochure; 2Banerji, Q4 2020 report

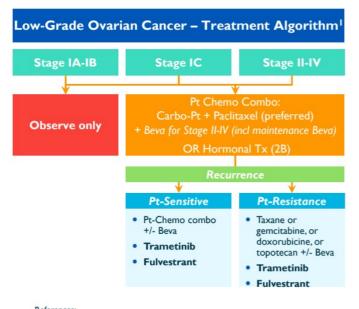
VS-6766 in Combination with Defactinib Shows Promising ORR with Durability in Refractory LGSOC with Expanded Number of Patients (n=24)





Reference: Banerjee et al., ESMO Sept 2021

LGSOC: Limited Treatment Options with High Unmet Need



Therapy	Response Rate ORR	Median PFS Months (95% CI)	Discontinuatio Rate due to AE
Standard of Care ¹	6%	7.2 (5.6-9.9)	12 %
Trametinib ¹	26%	13.0 (9.9-15.0)	35%
Standard of Care ²	13%	10.6 (9.2 to 14.5)	17%
Binimetinib ²	16%	9.1 (7.3-11.3)	31%

¹ Gershenson, et al. ESMO 2019. ² Monk et al., J Clin Oncol 2020.

Standard of Care = letrozole, tamoxifen, chemother PFS = Progression free survival CI = confidence interval



70% of LGSOC tumors driven by mutations in the RAS pathway



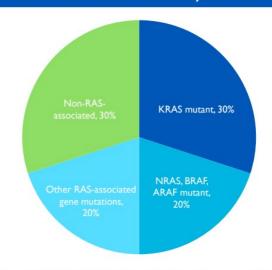
1,000 to 2,000 patients in the U.S. and 15,000 to 30,000 worldwide diagnosed with LGSOC each year

A slow growing cancer, that has a median survival of almost 10 years, so patients remain in treatment for a long time (10-yr prevalence ~80,000 worldwide, ~6,000 US)

Patients often experience significant pain and suffering from their disease over time

Most prior research has focused on high grade serous ovarian cancer (HGSOC). However, LGSOC is clinically, histologically and molecularly unique from HGSOC with limited treatments available

~30% of LGSOC Patients Have KRAS mt ~70% of LGSOC Shows RAS Pathway-Associated r



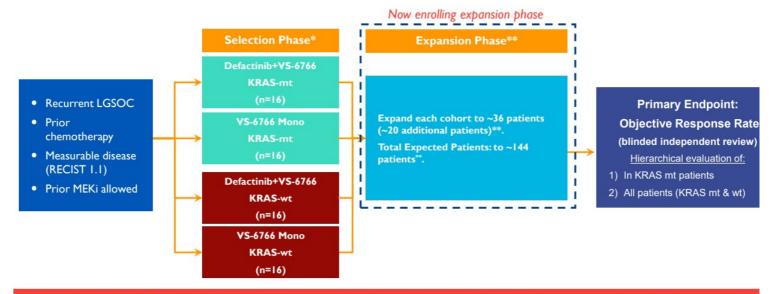
References: AACR Project GENIE Cohort v9.0-public and Verastem unpublish



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Reference: Monk, Randall, Grisham, The Evolving Landscape of Chemotherapy in Newly Diagnosed Advanced Epithelial Ovarian Cancer, Am Soc Clin Oncol Educ Book; 2019
Slomovitz, Gourley, Carey, Malpica, Shih, Huntsman, Fader., Grisham et al, Low-Grade serous ovarian cancer: State of the Science; Gynecol Oncol; 2020. Grisham, Iyer, Low-Iserous Ovarian Cancer: Current Treatment Paradigms and Future Directions; Curr Treat Options Oncology; 2018.

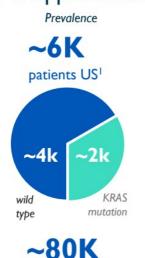
RAMP 201: Registration-directed Phase 2 Trial of VS-6766+/- Defactinib in Recurrent LGSOC - KRAS Mutant (mt) and Wild Type (wt)



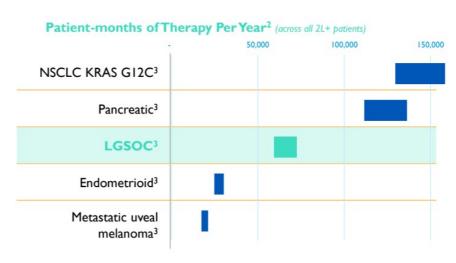
Registration-directed Study: FDA Supportive of Development Strategy, Adaptive Design and Inclusion of KRAS wt LG Commenced in Nov. 2020 with estimated Primary Completion Date for the Expansion Phase of June 2023 (NCT04625270)

VERASTEM*
*Dosing: Defactinib + VS-6766 combo: Defactinib 200mg PO BID: 21/28 days + VS-6766 3.2mg PO 2x/wk 21/28 days; VS-6766 monotherapy: VS6766 4.0 mg PO 2x/wk 21/28 **Expansion Phase - final sample size to be adjusted based on adaptive design

LGSOC market opportunity larger or comparable to other high unmet need **KRAS** opportunities



patients WWI





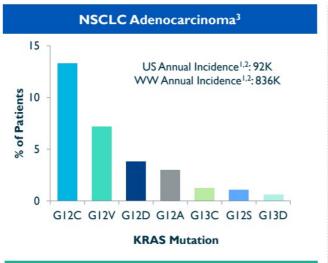
¹ References: Monk, Randall, Grisham, The Evolving Landscape of Chemotherapy in Newly Diagnosed Advanced Epithelial Ovarian Cancer, Am Soc Clin Oncol Educ Book; 2019; Slomovitz, Gourley, Carey, Malpica, Shih, Huntsman, Fader., Grisham et al, Low-Grade serous ovarian cancer: State of the Science; Gynecol Oncol; 2020. Grisham, lyer, Low-Grade Serous Ovarian Cancer: Current Treatment Paradigms and Future Directions; Curr Treat Options Oncology; 2018; Globocan 2020

² Patient-months of Therapy metric calculated by multiplying relevant incidence/prevalence rate times estimated duration of therapy; represents US market opportunity only; patient population estimates from Globocan 2020, American Cancer Society 2021, AACR Genie Cohort V9.0 public, and scientific publications. Duration of therapy estimates from clinical studies and clinician experience. Patient-months on therapy is for 2nd-line+ patients

³ NSCLC KRAS G12C 2nd line patients (incidence); Pancreatic RAS/RAF mutant 2nd-line patients (incidence); LGSOC KRAS mutant and wild-type patients (prevalence); Endometrioid RAS/RAF mutant 2nd-line patients (incidence)



High Unmet Need in Refractory KRAS mt NSCLC Adenocarcinoma

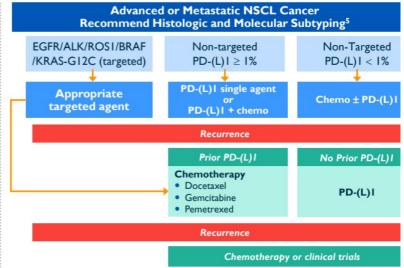


KRAS Mutations Represent 25% of Lung Cancer Adenocarcinoma (EGFR 17%, ALK 7%)4



- Globocan, 2018

- ¹ Globocan, 2018
 ² https://www.ncbi.nlm.nih.gov/books/NBK519578/
 ³ TCGA PanCancer Atlas (cBioPortal analysis)
 ⁴ www.thelancet.com Vol 389 January 21, 2017
 ⁵ Adapted from NCCN Non-small cell lung cancer guidelines Version 3.2020

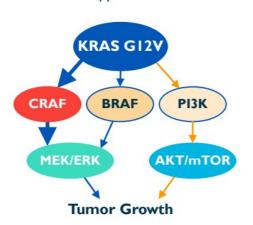


- SOC in recurrent disease is chemotherapy
- Pre-PD-(L) I era, chemotherapy response rate ~10% in recurrent disease; 12w PFS of 30-45%

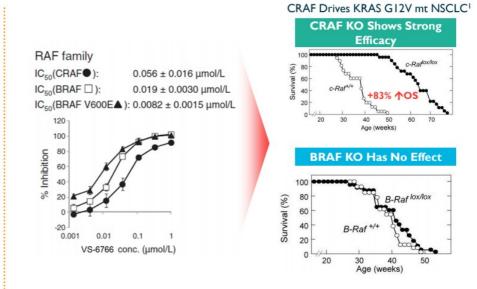


VS-6766 Inhibits CRAF - The key driver of KRAS G12V mt NSCLC

A Precision Approach to KRAS G12V Driven NSCLC



- KRAS G12V signals mainly through RAF/MEK in contrast to other variants, such as KRAS-G12D, which signal more through PI3K/AKT
- KRAS G12V models are especially dependent on CRAF

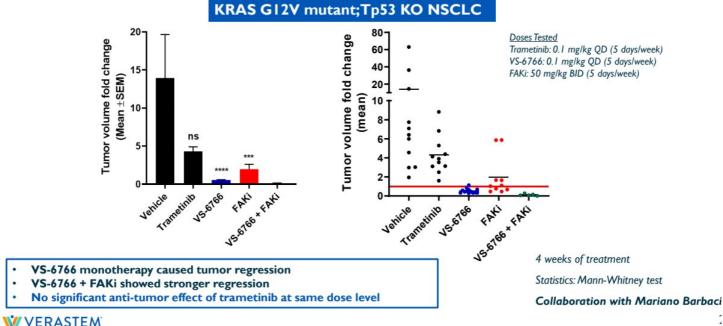


CRAF, but not BRAF, ablation improves survival of mice with KRAS G12V induced lung cancer in vivo



References: Ishii et al. Cancer Res (2013), Blasco, R. B. et al. Cancer Cell (2011), Lito, P. et al. Cancer Cell (2014), Sanciemente, M. et al. Cancer Cell (2018)

VS-6766 +/- FAKi induces significant tumor regression in KRAS G12V mt NSCLC in vivo model, with clear differentiation from trametinib





Reference: Coma et al. AACR 2021

Case Study: Response to VS-6766 + defactinib in a patient with KRAS G12V mutant NSCLC

Pre-treatment Oct 2019

VS-6766 + Defactinib On-treatment Feb 2021

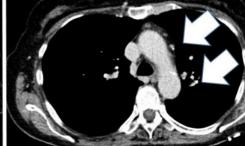


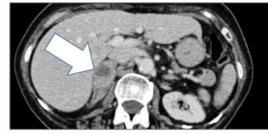
June 2019 - Sept 2019: Treated with first line Carboplatin + Pemetrexed + Pembrolizumab

Oct 2019: Progression, palliative RT to right hip

Nov 2019 – present: On treatment in FRAME study VS-6766 + Defactinib







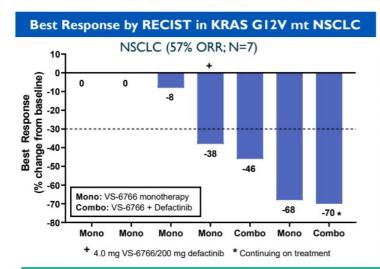


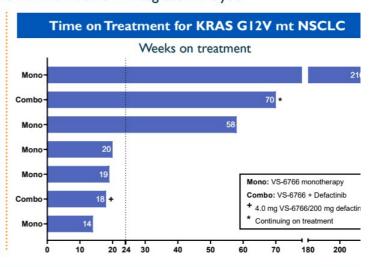


Reference: Krebs et al. AACR 2021

Strong Signal Identified in KRAS G12V NSCLC

VS-6766 ± Defactinib Has a Confirmed 57% ORR in KRAS G12V mt NSCLC in Integrated Analysis



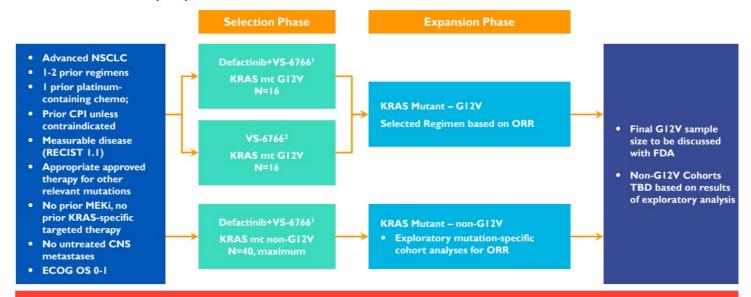


- Preclinical evidence suggests combination with Defactinib may improve efficacy in KRAS G12V mt NSCLC
- Activity of VS-6766 as a single agent and in combo with Defactinib in KRAS G12V mt NSCLC



References: 1 Guo, et al Lancet Oncology 2020 2 Krebs, AACR April 2021 (March 18, 2021 cutoff)

RAMP 202: Registration-directed Phase 2 Trial of VS-6766+/- Defactinib in KRAS Mutant (mt), G12V Enriched Advanced NSCLC



This Registration-directed Phase 2 Study commenced December 2020 with an estimated Primary Completion Date for the Expansion Phase of March 2023 (NCT04620330)



References: Defactinib 200 mg PO BID (21/28 days) + VS-6766 3.2 mg PO 2x/wk (21/28 days)

² VS-6766 4.0 mg PO 2x/wk (21/28 days)

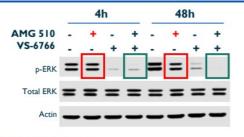
Preclinical synergy of VS-6766 + G12C inhibitors in KRAS G12C mt models

Synergy of VS-6766 + G12C inhibitor AMG 510 across G12C mutant NSCLC, CRC & Pancreatic cancer cell lines

			Combined Synergy Score		
Cell line	Indication	Sensitivity to G12C inhibitors	VS-6766 + AMG 510	VS-6766 + MRTX849	
H2122	NSCLC	Moderately sensitive	44.7	44.6	
H1373	NSCLC	Sensitive	10.0	3.4	
SW1573	NSCLC	Insensitive	8.6	12.0	
H358	NSCLC	Sensitive	6.9	5.4	
H2030	NSCLC	Moderately sensitive	5.1	ND	
SW837	CRC	Sensitive	16.1	18.5	
MIAPACA2	Panc	Sensitive	2.3	5.3	

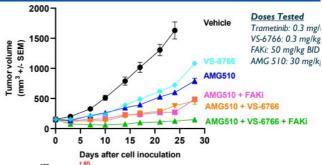
ND: not determined

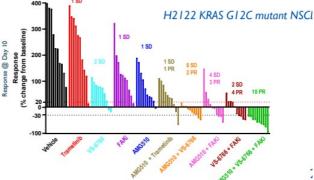
VS-6766 + AMG 510 yields deeper and more sustained inhibition of ERK signaling pathway



H2122 KRAS G12C mutant NSCLC

Concentrations Tested AMG 510: 100 nM VS-6766: 100 nM VS-6766 & FAKi potentiate AMG 510 efficacy in KRAS G12C mutal NSCLC in vivo; Tumor regression in all mice with triple combinatio



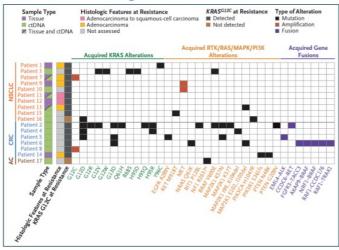




Reference: Coma et al., AACR 2021

Acquired resistance mechanisms to KRAS G12Ci treatment in patients further support combination of KRAS G12Ci with VS-6766

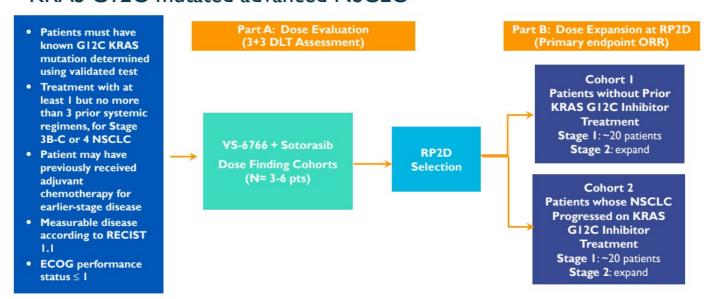
Summary of Putative Mechanisms of Acquired Resistance to Adagrasib Treatment



- Mechanisms of acquired resistance to KRAS G12Ci adagrasib treatment in patients recently reported^{1,2}
- · The main resistance alterations occurred in
 - · RTK mts or amplifications
 - KRAS mts or amplification
 - NRAS mt
 - BRAFV600E mt, BRAF or CRAF fusions
 - MAP2K1 (MEK1) mt/deletion
- VS-6766 is expected to be effective against these KRAS, NRAS, BRAF and CRAF modifications

Reference: ¹Awad MM et al., N Engl J Med 2021; 384: 2382-93; ²Tanaka et al., Cancer Discov 2021;11:1–10

RAMP 203: Phase I/2 Trial of VS-6766 + LUMAKRASTM (sotorasib) in KRAS G12C-mutated advanced NSCLC

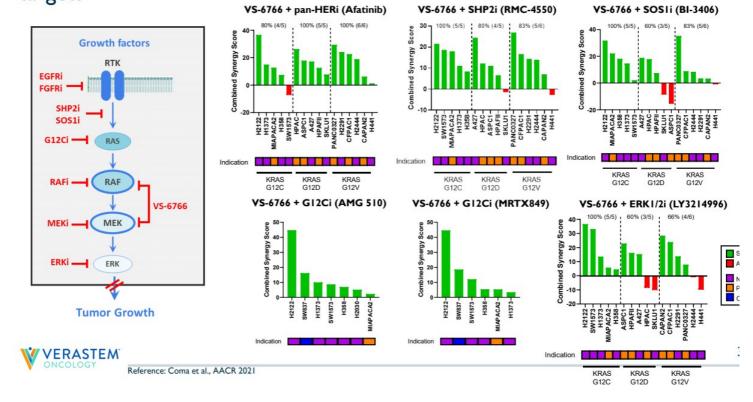


Part A (Dose Evaluation) portion of study expected to be initiated in IQ 2022 (NCT05074810)



Future Opportunities: VS-6766 as Backbone of RAS Therapy

Vertical Blockade: Preclinical synergy in combination with several promising targets



to clinical stage VS-6766 + p70S6K/AKTi (M2698) VS-6766 + mTORi (Everolimus) 40-**Growth factors Extracellular Matrix** SOS1i G12Ci -RAF MEK AKT VS-6766 + CDK4/6i (Palbociclib) VS-6766 + FAKi (Defactinib) mTORi RhoA, YAP, etc Combined Synergy Score mTOR Synergy **Tumor Growth** Antagonism NSCLC Panc **W** VERASTEM Reference: Coma et al., RAS-Targeted Drug Discovery, Feb 2021

Parallel Pathway Inhibition: Two synergistic combinations already progressed



Key Financial Statistics

As of September 30, 2021

Cash, cash equivalents & investments	\$103.4M
Shares fully diluted	196.9M
Insider ownership (outstanding / vested)	8.1% / 5.1%

^{*} The 2018 Notes have an initial conversion rate of 139.5771 shares of Common Stock per \$1,000 which translates to an initial conversion price of \$7.16 per share of Common Stock.





Verastem Oncology Strategic Transformation



Q1 2020: In-licensed global rights to VS-6766, best-in-class RAF/MEK inhibitor, from Chugai PIPE financing based on data for new clinical program



Q3 2020: Divested global rights to Copiktra to Secura Bio



Q4 2020: Initiated registration-directed ph. 2 study in LGSOC Initiated registration-directed ph. 2 study in NSCLC



Q1 2021: LGSOC study updated to include KRAS wild type patients



Q2 2021: FDA Breakthrough Therapy Designation granted for VS-6766 + Defactinib in LGSOC



Q3 2021: Remaining outstanding debt retired

VS-6766 + sotorasib Collaboration agreement with Amgen



Q4 2021: VS-6766 + adagrasib Collaboration agreement with Mirati



High Unmet Needs in RAS/RAF/MEK/ERK-Driven Cancers



NSCLC Incidence^{3,5}:



Pancreatic Incidence⁵:



Uterine Endometrioid Incidence^{4,5}: 59K



Colorectal Incidence⁵: 105K



Ovarian Incidence⁵: 22K





Melanoma Incidence⁵: 108K



Multiple Myeloma Incidence⁵: 32K





Melanoma Incidence⁵: 108K



Ovarian Incidence⁵: 22K



Papillary Thyroid Incidence^{5,6}: 42K



Breadth of potential opportunity

 30% of all human cancers are driven by mutations of the RAS family of genes⁶

Established prognostic significance

 Patients with mutations of the RAS family have an overall worse prognosis

Challenges with conventional approaches

- Modest progress; limited number of approved therapies
- · Single agent therapies (e.g., MEK inhibitors) associated with resistance
- Tolerable combination regimens with MEK inhibitors have been challenging
- Current RAS inhibitors in development address only a minority of all RAS mutated cancers

Incidence References:

Reference for RAS mt frequencies – Cox et al. Nature Reviews 13: 828, 2014; Reference for BRAF mt frequencies – Turski et al. Mol Cancer Ther 15: 533, 2016

385% of lung cancer is NSCLC (Lu et. al. Cancer Manag Res. 2019); 490% of all uterine cancers are of the endometrial type (ACS); 5Cancer Statistics 2020, Siegel et. al. CA Cancer J Clin 2020;770:7-30; 48 out of 10 thyroid cancers are of the papillary type (ACS)

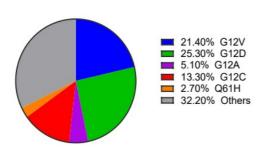
References:



References: McCormick F Clin Cancer Res 15April2015; Adderley H et al. EBioMedicine 01Mar2019; Papke B et al. Science 17Mar2017; Ryan M et al. Nature Reviews Clinical Oncology 01Oct2018; NIH cancer.gov/research/key-initiatives/ras

KRAS G12V and G12D Represent ~50% of KRAS Mutations across Human Cancers

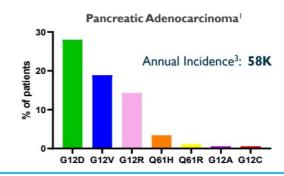
% frequency in a total of 780 cancer patients with KRAS mutations¹

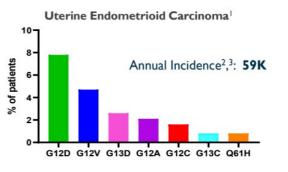




- TCGA PanCancer Atlas (cBioPortal analysis)
- ² 90% of all uterine cancers are of the endometrial type (ACS)
- ³ Cancer Statistics 2020 (Siegel et al. CA Cancer J Clin 2020; 70:7-30)

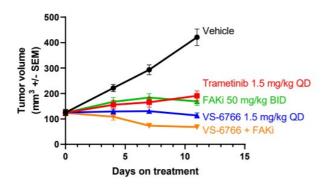




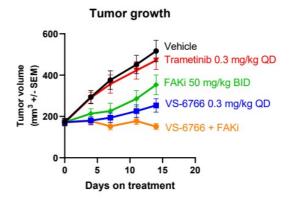


VS-6766 and FAK inhibitor combination leads to more robust anti-tumor efficacy in vivo

KRASmt Ovarian TOV-21G in vivo Model¹



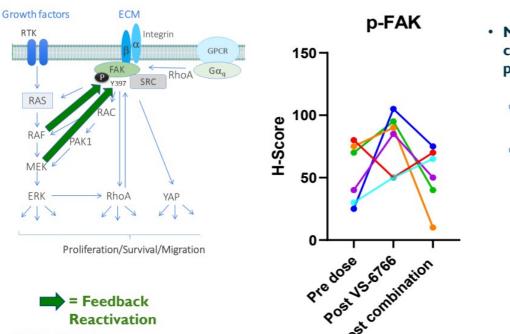
KRASmt NSCLC H358 in vivo Model²





References: | Coma AACR 2021; 2 Krebs AACR 2021

Overcoming Key Resistance Mechanisms to MEK Inhibitors



- MEK inhibition induces compensatory activation of pFAK preclinically and clinically
 - Trametinib induced ↑ pFAK (Y397) preclinically in KRAS mt NSCLC cell
 - Also observed in patients
 - VS-6766 induced ↑ pFAK (Y397) potential resistance mechanism the majority of patients
 - · Combination with defactinib reduced this compensatory pFA



References: Banerji, BTOG Dublin, Jan 23, 2019 Banerji, AACR VM I, April 27, 2020, CT143

Pharmacokinetic Profiles of VS-6766 + Defactinib in Combination Similar to that seen in Single Agent Studies

VS-6766

Cohort	Dose (mg)	N	Subject	AUC _{0-24h} (h*ng/mL)	C _{max} (ng/mL)
C 20 00 00 00 00 00 00 00 00 00 00 00 00	3.2	2	Mean	6179	354
	(with 200mg VS)	3	CV%	32.1	30.4
2a 4 (with 200mg VS)	4	5	Mean	5353	289
	(with 200mg VS)		CV%	15.8	16.0
2b	3.2 (with 400mg VS)	1	FRA101-007	3302	229

Defactinib

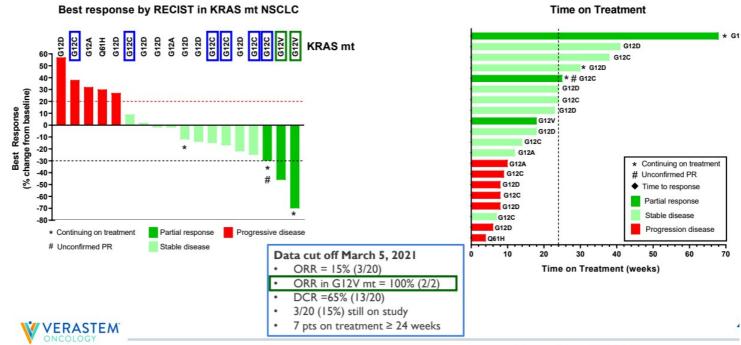
Cohort	Dose (mg)	N	Subject	AUClast (h*ng/mL)	Cmax (ng/mL)
I	200 (with 3.2mg RO)	3	Mean	2071	273
			CV%	103	80
2a	200 (with 4mg RO)	5	Mean	2252	318
			CV%	124	117
2b	400 (with 3.2mg RO)	3	Mean	2807	360
			CV%	31	32



Reference: Banerji, AACR VM I, April 27, 2020, CT143

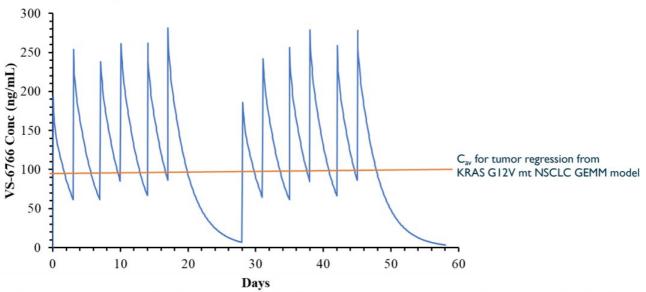
NSCLC Responses with VS-6766 + Defactinib Combination (n=20)

Confirmed responses in 2/2 patients with KRAS G12V mt NSCLC Tumor reduction in 4/6 patients with KRAS G12C mt NSCLC



Reference: Krebs et al. AACR 2021

Target exposure for preclinical tumor regression is covered by twice weekly dosing of 4 mg VS-6766 3 wks on/1 wk off



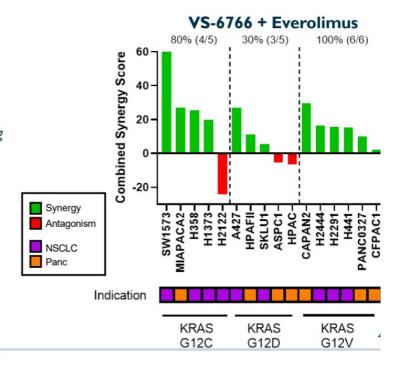
- Modeling of PK for 4 mg VS-6766 2/wk, 3 wks on/1 wk off, based on 4 mg single dose PK data (study NO21895)
- Relationship to average exposure for tumor regression in KRAS G12V mt NSCLC mouse model



References: Martinez-Garcia et al., Clin Cancer Res 2012; Coma et al. AACR 2021

Status: Combination of VS-6766 with Everolimus (mTOR inhibitor)

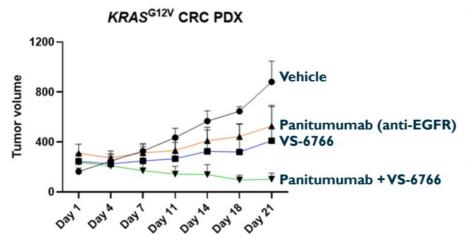
- Synergy of VS-6766 + everolimus observed broadly across cancer cell lines with various KRAS mutation variants
- A well-tolerated RP2D for VS-6766 + everolimus has been established with intermittent dosing of both agents (twice weekly; 3 wks on/1 wk off)
- KRAS mutant NSCLC expansion cohort is currently ongoing with VS-6766 + everolimus





Reference: Coma et al., RAS-Targeted Drug Discovery, Feb 2021

Combination of VS-6766 with anti-EGFR mAb induces tumor regression in a KRAS mt Colorectal PDX model



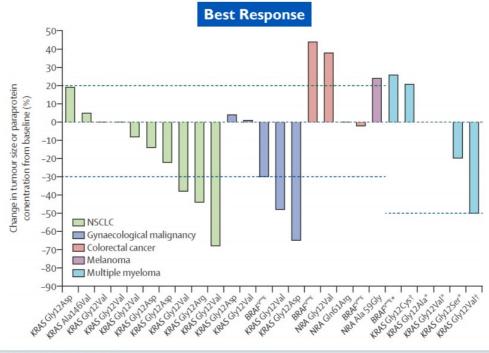
- VS-6766 + anti-EGFR (panitumumab) induces tumor regression in a KRAS G12V mt CRC patient-derived xenograft model
- G12Ci + anti-EGFR (sotorasib + panitumumab and adagrasib + cetuximab) have shown partial responses in KRAS G12 mt CRC (Fakih et al. ESMO 2021; Weiss et a ESMO 2021)
- These data support clinical testing of VS-6766 + anti-EGFR for treatment of KRAS mt CRC



Collaboration with Marwan Fakih, City of Hope

Pachter, RAS Development Summit, 2021

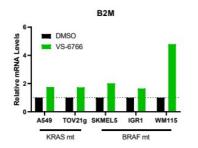
VS-6766 monotherapy has shown clinical activity in several cancer indications, including NSCLC

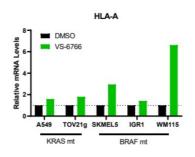


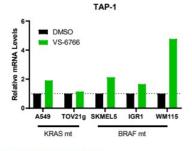


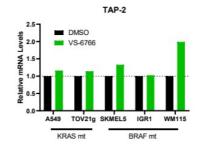
Guo et al., Lancet Oncology 2020

VS-6766 upregulates MHC Class I antigens on tumor cells: a mechanism for potentiation of I/O efficacy









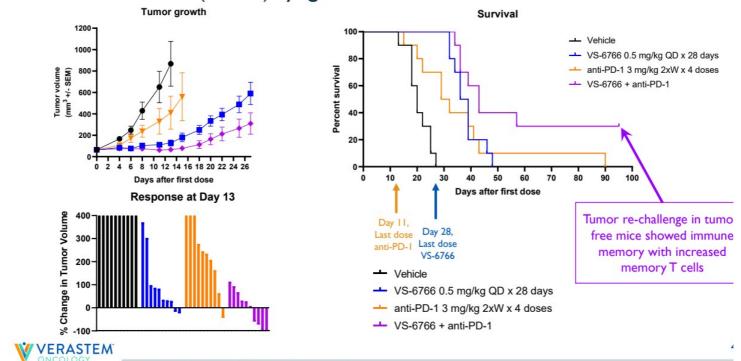
Cell Line	Tumor type	RAS/RAF mutation status
A549	Lung	KRASmt G12S
TOV21g	Ovarian	KRASmt G13C
SKMEL5	Melanoma	BRAFmtV600E
IGR-I	Melanoma	BRAFmtV600E
WMI15	Melanoma	BRAFmtV600E

VS-6766 @ I μM (except SKMEL5 and IGR-I, 300 nM)



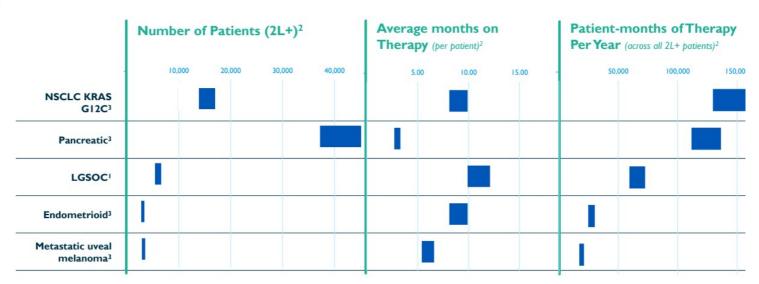
Reference: Pachter, RAS-Targeted Drug Development, Sept 2020

VS-6766 enhances tumor growth inhibition when combined with anti-PD-I in the CT26 KRAS (GI2D) syngeneic model



Reference: Pachter, RAS-Targeted Drug Development, Sept 2020

LGSOC Market Opportunity – Reference Calculations



¹ Prevalence used for LGSOC patient population estimate. References: Monk, Randall, Grisham, The Evolving Landscape of Chemotherapy in Newly Diagnosed Advanced Epithelial Ovarian Cancer, Am Soc Clin Or Educ Book; 2019; Slomovitz, Gourley, Carey, Malpica, Shih, Huntsman, Fader., Grisham et al, Low-Grade serous ovarian cancer: State of the Science; Gynecol Oncol; 2020. Grisham, Iyer, Low-Grade Serous Ovarian Cancer: Current Treatment Paradigms and Future Directions; Curr Treat Options Oncology; 2018; Globocan 2020

² Patient-months of Therapy metric calculated by multiplying relevant incidence/prevalence rate times estimated duration of therapy; represents US market opportunity only; patient population estimates from Globs 2020, American Cancer Society 2021, AACR Genie Cohort 9.0 public, and scientific publications. Duration of therapy estimates from clinical studies and clinician experience. Number of patients and months on

therapy are for 2nd-line+

3 NSCLC KRAS G12C 2nd line patients (incidence); Pancreatic RAS/RAF mutant 2nd-line patients (incidence); Uveal melanoma RAS/RAF mutant 2nd-line



Strong Patent Protection

- COM for VS-6766 to 2027 & defactinib to 2028, Hatch Waxman should extend to 2032
- VS-6766 intermittent dosing regimen until 2038 if granted
- FAK/MEK combination to 2035
- VS-6766/defactinib combination until 2040 if granted
- Method of manufacture for VS-6766 to 2032
- · Other activity related to patent protection is ongoing and will continue into the future



Experienced Senior Management Team



Brian Stuglik
Chief Executive Officer

- Global VP & Chief Marketing Officer – Lilly Oncology
- Founding Member Proventus Health Solutions



Daniel PatersonPresident and Chief Operating
Officer

- CEO The DNA Repair Co. (now On-Q-ity)
- PharMetrics (now IMS), Axion



Chief Business and Financial Officer

Rob Gagnon

- CFO Harvard Bioscience, Harbors
- VP of Finance Biogen Idec



Cathy Carew Chief Organizational Effectiveness Officer

- Principal HR Collaborative
- Ironwood, ActiveBiotics, Dynogen, Tufts Health Plan



Jonathan Pachter, Ph.D. Chief Scientific Officer

- Head of Cancer Biology OSI (now Astellas)
- Schering-Plough



Louis Denis, M.D. Chief Medical Officer

- CMO, Asana BioSciences
- · Boehringer-Ingelheim, Pfizer



Hagop Youssoufian, MSc, M.D. Head of Medical Strategy

- CMO, BIND Therapeutics, EVP, Progenics,
- CMO & EVP, Ziopharm Oncology, SVP, Imclone







Verastem Oncology Outlines Key 2022 Strategic Priorities and Upcoming Catalysts for Advancing VS-6766 as a Backbone of Therapy for RAS Pathway-Driven Cancers

Report Selection Phase (Part A) Results from RAMP 201 and RAMP 202 Evaluating VS-6766 Alone and in Combination with Defactinib in Low-Grade Serous Ovarian Cancer (LGSOC) and KRAS-Mutant Non-Small Cell Lung Cancer (NSCLC), Respectively

Report Preliminary Data from Phase 1/2 Trial Evaluating LUMAKRAS™ (sotorasib) and VS-6766 and Initiate Phase 1/2 Trial Evaluating adagrasib and VS-6766; Both in KRAS G12C-Mutant Non-Small Cell Lung Cancer

Expand Ongoing Investigator-Initiated Trial Program to Explore Combination Potential with VS-6766 in Additional Areas of High Unmet Need; Data Read-Outs Expected Throughout 2022

BOSTON - January 11, 2022 - Verastem Oncology (Nasdag: VSTM), a biopharmaceutical company committed to advancing new medicines for patients battling cancer, today outlined key strategic priorities and upcoming catalysts to support its lead compound VS-6766 in 2022. VS-6766 is a RAF/MEK clamp that induces inactive complexes of MEK with ARAF, BRAF and CRAF, potentially creating a more complete and durable anti-tumor response through maximal RAS pathway inhibition. VS-6766 is currently in late-stage development.

"Building on the Breakthrough Therapy designation for VS-6766 with defactinib in recurrent low-grade serous ovarian cancer, the significant progress of our RAMP program in both low-grade serous ovarian cancer and KRAS G12V-mutant non-small cell lung cancer, our clinical collaborations in KRAS G12C-mutant non-small cell lung cancer as well as our ongoing investigator-initiated trials program, we expect to see tremendous progress on behalf of patients in 2022," said Brian Stuglik, CEO of Verastem Oncology. "We plan to efficiently advance our development strategy, report multiple data readouts and further highlight the differentiated potential of VS-6766 across tumor types and mutations."

2022 Strategic Priorities

Gynecologic Oncology Program

- Fully enroll Part B of the RAMP 201 trial (LGSOC VS-6766 +/- defactinib).
 Expand development program into other RAS pathway-driven gynecologic cancers.

- Non-Small Cell Lung Cancer (NSCLC) Program

 Select regimen for Part B of the RAMP 202 trial (KRAS G12V NSCLC VS-6766 +/- defactinib)
 - Initiate and complete dose-finding portions of RAMP 203 (KRAS G12C NSCLC VS-6766 + LUMAKRAS™ (sotorasib)) and RAMP 204 (KRAS G12C NSCLC VS-6766 + adagrasib) combination trials.
 - Provide signal read-out of investigator-sponsored trial of VS-6766 and everolimus in KRAS- mutant NSCLC.

Other Programs

- Expand investigator-initiated trial program to include signal-finding studies in other tumor types, including melanoma, breast and colorectal
- Expand clinical combinations with VS-6766.

Anticipated 2022 Development Milestones and Catalysts

10-2022

- Having completed target enrollment (n=64) in the selection phase (Part A) of the Phase 2 RAMP 201 trial (LGSOC VS-6766 +/- defactinib), the enrollment phase (Part B) is now ongoing with both treatment arms currently advancing.

 Complete enrollment in the selection phase (Part A) of the Phase 2 RAMP 202 trial (KRAS G12V NSCLC VS-6766 +/- defactinib). Initiate RAMP 203 trial (KRAS G12C NSCLC VS-6766 + LUMAKRASTM (sotorasib)) with Amgen.

02-2022

- Report topline results from Part A of the RAMP 201 trial (LGSOC VS-6766 +/- defactinib), following discussions with regulatory authorities.
- Initiate RAMP 204 trial (KRAS G12C VS-6766 + adagrasib) with Mirati.
- Present topline results of investigator-initiated trial of VS-6766 and everolimus in KRAS-mutant NSCLC. Present investigator-initiated FRAME LGSOC translational data.

2H-2022

- Complete enrollment in the RAMP 201 trial (LGSOC VS-6766 +/- defactinib).
 Report topline results from RAMP 202 trial (KRAS G12V NSCLC VS-6766 +/- defactinib) and initiate the expansion phase (Part B), following discussions with regulatory authorities.
- Report initial readout of the RAMP 203 trial (KRAS G12C NSCLC VS-6766 + LUMAKRAS™ (sotorasib)) with Amgen.

"We are pleased with the progress of our scientific collaborations and the high level of interest of leading investigators to advance the preclinical synergy data towards clinical evaluation of VS-6766 in combinations across multiple tumor types, including melanoma, colorectal and breast cancers," said Louis Denis, CMO of Verastem Oncology. "These clinical research efforts complement our company-sponsored development program and help to expediently advance our efforts to address an even broader scope of significant unmet medical needs."

About VS-6766

VS-6766 (formerly known as CH5126766 and RO5126766) is a RAF/MEK clamp that induces inactive complexes of MEK with ARAF, BRAF and CRAF potentially creating a more complete and durable anti-tumor response through maximal RAS pathway inhibition. VS-6766 is currently in late-

In contrast to other MEK inhibitors, VS-6766 blocks both MEK kinase activity and the ability of RAF to phosphorylate MEK. This unique mechanism allows VS-6766 to block MEK signaling without the

compensatory activation of MEK that appears to limit the efficacy of other inhibitors. The U.S. Food and Drug Administration (FDA) granted Breakthrough Therapy designation for the combination of Verastem Oncology's investigational RAF/MEK inhibitor VS-6766, with defactinib, its FAK inhibitor, for the treatment of all patients with recurrent low-grade serous ovarian cancer (LGSOC) regardless of KRAS status after one or more prior lines of therapy, including platinum-based chemotherapy.¹

Verastem Oncology is conducting Phase 2 registration-directed trials of VS-6766 alone and with defactinib in patients with recurrent LGSOC and in patients with recurrent KRAS-G12V mutant NSCLC as part of its RAMP (Raf And Mek Program) clinical trials, RAMP 201 and RAMP 202, respectively. Verastem Oncology has also established clinical collaborations with Amgen and Mirati to evaluate LUMAKRAS™ (sotorasib) and adagrasib in combination with VS-6766 in KRAS-G12C mutant NSCLC as part of the RAMP 203 and RAMP 204 trials, respectively.

About Verastem Oncology

Verastem Oncology (Nasdaq: VSTM) is a development-stage biopharmaceutical company committed to the development and commercialization of new medicines to improve the lives of patients diagnosed with cancer. Our pipeline is focused on novel small molecule drugs that inhibit critical signaling pathways in cancer that promote cancer cell survival and tumor growth, including RAF/MEK inhibition and focal adhesion kinase (FAK) inhibition. For more information, please visit www.verastem.com.

Forward-Looking Statements Notice

This press release includes forward-looking statements about Verastem Oncology's strategy, future plans and prospects, including statements related to the potential clinical value of various of its clinical trials, the timing of commencing and completing trials, including topline data reports, and potential for additional development programs involving Verastem Oncology's lead compound. The words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," "can," "promising" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Each forward-looking statement is subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statement

Applicable risks and uncertainties include the risks and uncertainties, among other things, regarding: the success in the development and potential commercialization of our product candidates, including VS-6766 in combination with other compounds, including defactinib, LUMAKRASTM and others; the occurrence of adverse safety events and/or unexpected concerns that may arise from additional data or analysis or result in unmanageable safety profiles as compared to their levels of efficacy; our ability to obtain, maintain and enforce patent and other intellectual property protection for our product candidates; the scope, timing, and outcome of any legal proceedings; decisions by regulatory authorities regarding labeling and other matters that could affect the availability or commercial potential of our product candidates; whether preclinical testing of our product candidates and preliminary or interim data from clinical trials will be predictive of the results or success of ongoing or later clinical trials; that the timing, scope and rate of reimbursement for our product candidates is uncertain; that third-party payors (including government agencies) may not reimburse; that there may be competitive developments affecting our product candidates; that data may not be available when expected; that enrollment of clinical trials may take longer than expected; that our product candidates will experience manufacturing or supply interruptions or failures; that we will be unable to successfully initiate or complete the clinical

development and eventual commercialization of our product candidates; that the development and commercialization of our product candidates will take longer or cost more than planned; that we or Chugai Pharmaceutical Co., Ltd. will fail to fully perform under the VS-6766 license agreement; that we or our other collaboration partners may fail to perform under our collaboration agreements; that we may not have sufficient cash to fund our contemplated operations; that we may be unable to obtain adequate financing in the future through product licensing, co-promotional arrangements, public or private equity, debt financing or otherwise; that we will be unable to execute on our partnering strategies for VS-6766 in combination with other compounds; that we will not pursue or submit regulatory filings for our product candidates; and that our product candidates will not receive regulatory approval, become commercially successful products, or result in new treatment options being offered to patients.

Other risks and uncertainties include those identified under the heading "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2020 as filed with the Securities and Exchange Commission (SEC) on March 18, 2021 and in any subsequent filings with the SEC. The forward-looking statements contained in this press release reflect Verastem Oncology's views as of the date hereof, and the Company does not assume and specifically disclaims any obligation to update any forward-looking statements whether as a result of new information, future events or otherwise, except as required by law.

¹ Verastem Oncology Press Release. Verastem Oncology Receives Breakthrough Therapy Designation for VS-6766 with Defactinib in Recurrent Low-Grade Serous Ovarian Cancer. May 24, 2021. Available at: https://investor.verastem.com/news-releases/news-release-details/verastem-oncology-receives-breakthrough-therapy-designation-vs. Accessed October 2021.

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