Verastem Oncology

Updated Results from the Phase 1/2 FRAME Study in Low-Grade Serous Ovarian Cancer

September 16, 2020

NASDAQ: VSTM

On Today's Call

Prepared Remarks

- John Doyle, *Vice President, Investor Relations and Finance*
- Dan Paterson, *Chief Operating Officer*
- Rachel Grisham, MD, *Medical Oncologist, Memorial Sloan Kettering Cancer Center*
- Brian Stuglik, *Chief Executive Officer*
- Rob Gagnon, *Chief Financial Officer*

Joining for Q&A Session

- Jonathan Pachter, PhD, *Chief Scientific Officer*

Safe Harbor Statement

This presentation includes forward-looking statements about, among other things, Verastem Oncology's products and product candidates, including anticipated regulatory submissions, approvals, performance and potential benefits of Verastem Oncology products and 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 satisfaction of closing conditions with respect to the sale of the COPIKTRA assets to Secura Bio; the ability of Secura Bio to achieve the clinical and sales milestones necessary to result in additional consideration payable to Verastem.

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, 2019 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.

Updated Phase 1/2 FRAME Study Data in Low-Grade Serous Ovarian Cancer

Dan Paterson
President and Chief Operating Officer

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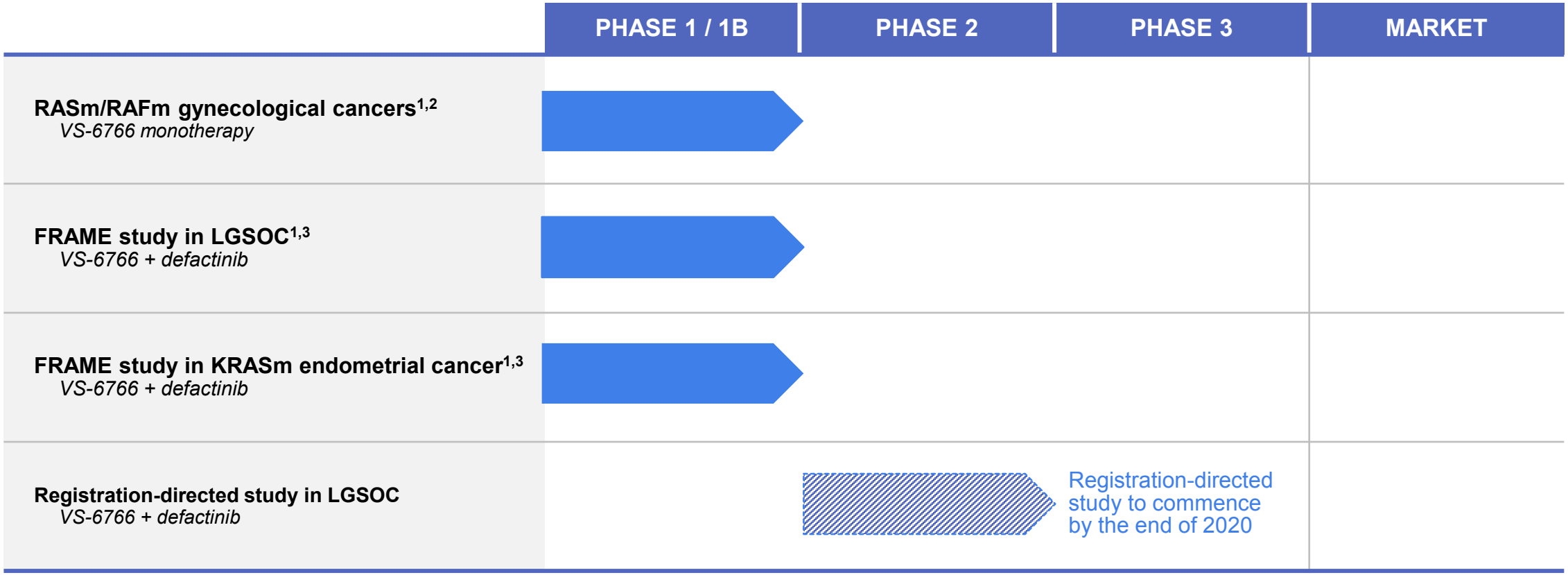
RAF/MEK Inhibitor VS-6766 in Gynecological Malignancies



[1] Investigator-sponsored trial

[2] Chénard-Poirier, M. et al. Results from the biomarker-driven basket trial of RO5126766 (CH5127566), a potent RAF/MEK inhibitor, in RAS- or RAF-mutated malignancies including multiple myeloma. *Journal of Clinical Oncology* 2017: 35

[3] NCT03875820

Favorable Tolerability Profile for Novel Intermittent Dosing Regimen of VS-6766 plus Defactinib

	Daily at MTD N=6 28-day cycle	4mg twice weekly N=26 28-day cycle	RP2D (VS-6766 3.2mg twice weekly + defactinib 200mg twice daily) N=26 21 days of 28-day cycle
Adverse Event	**Grade ≥3**	**Grade ≥3**	**Grade ≥3**
Rash related	3 (50%)	5 (19%)	1 (4%)
CK elevation	1 (17%)	2 (8%)	1 (4%)
Blurred vision	-	-	-
Peripheral edema	-	-	-
Diarrhea	-	1 (4%)	-
Mucositis	-	1 (4%)	-
Fatigue	-	1 (4%)	-
Nausea	-	-	-

[1] Chenard-Poirier, *et al*. ASCO 2017.

VS-6766 in Combination with Defactinib Shows Robust ORR with Durability in Refractory LGSOC with Expanded Number of Patients (n=17)

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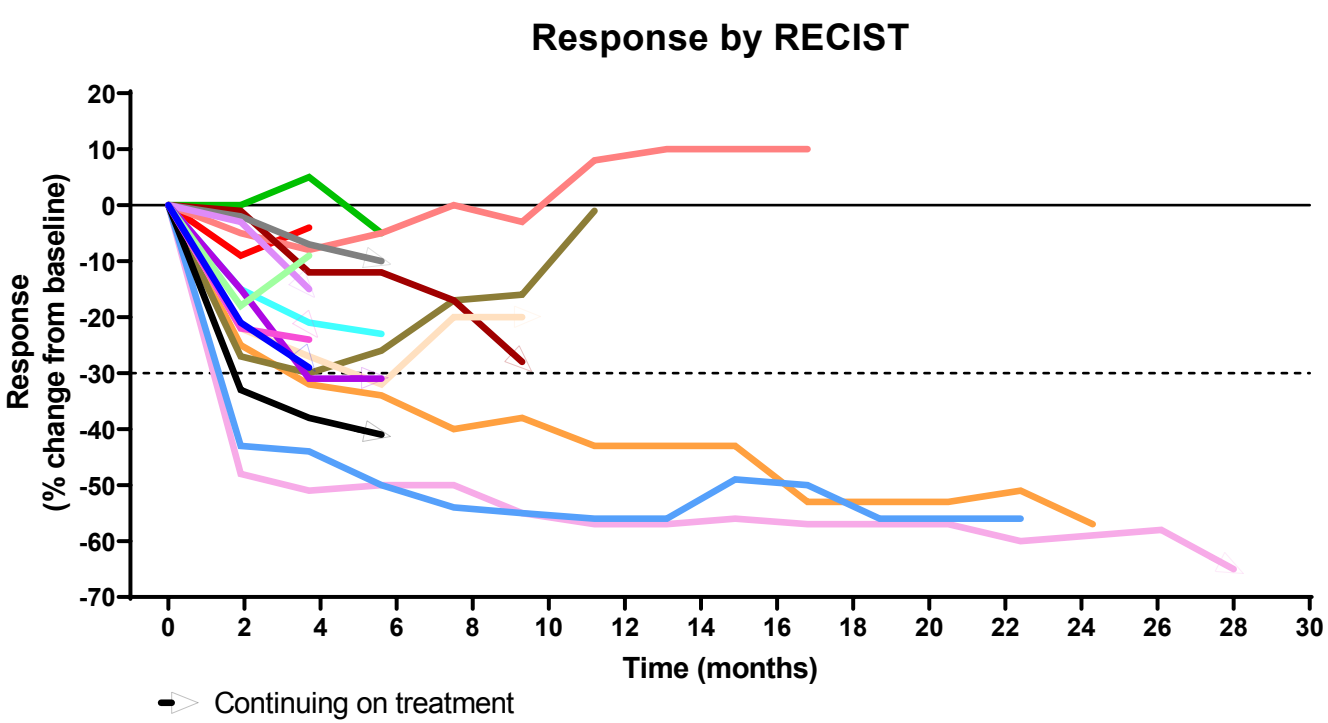
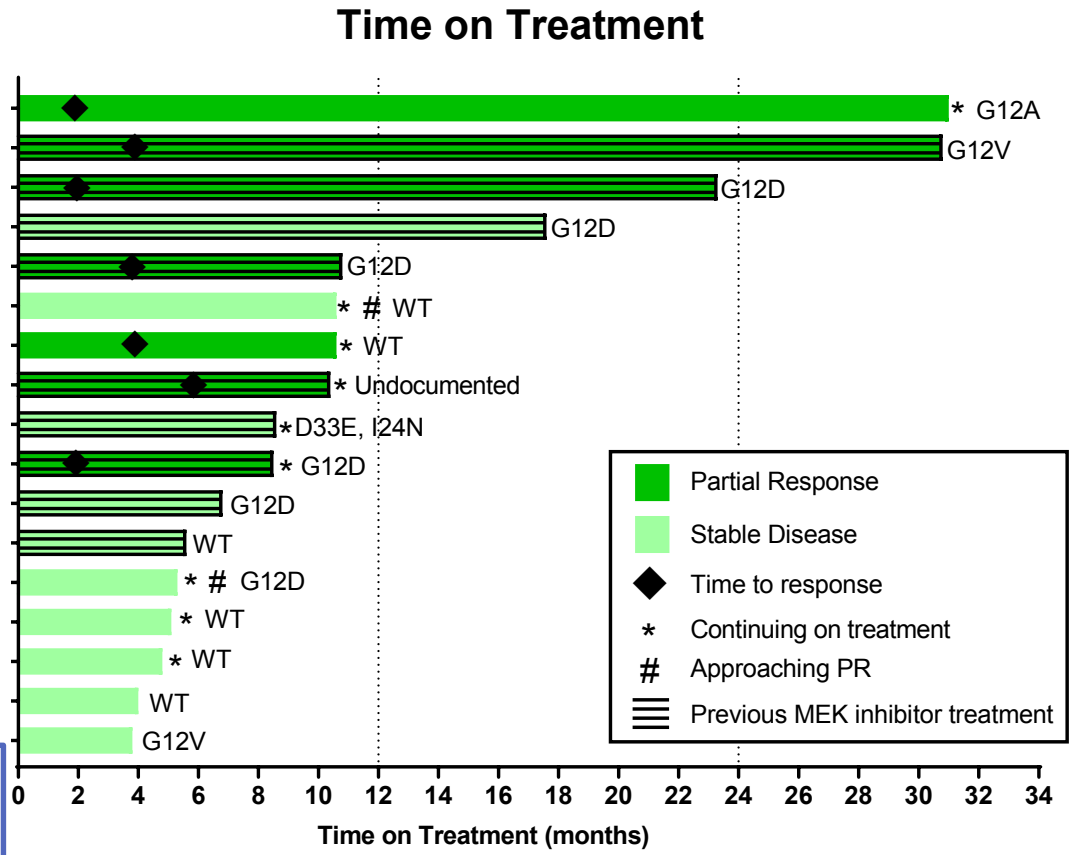




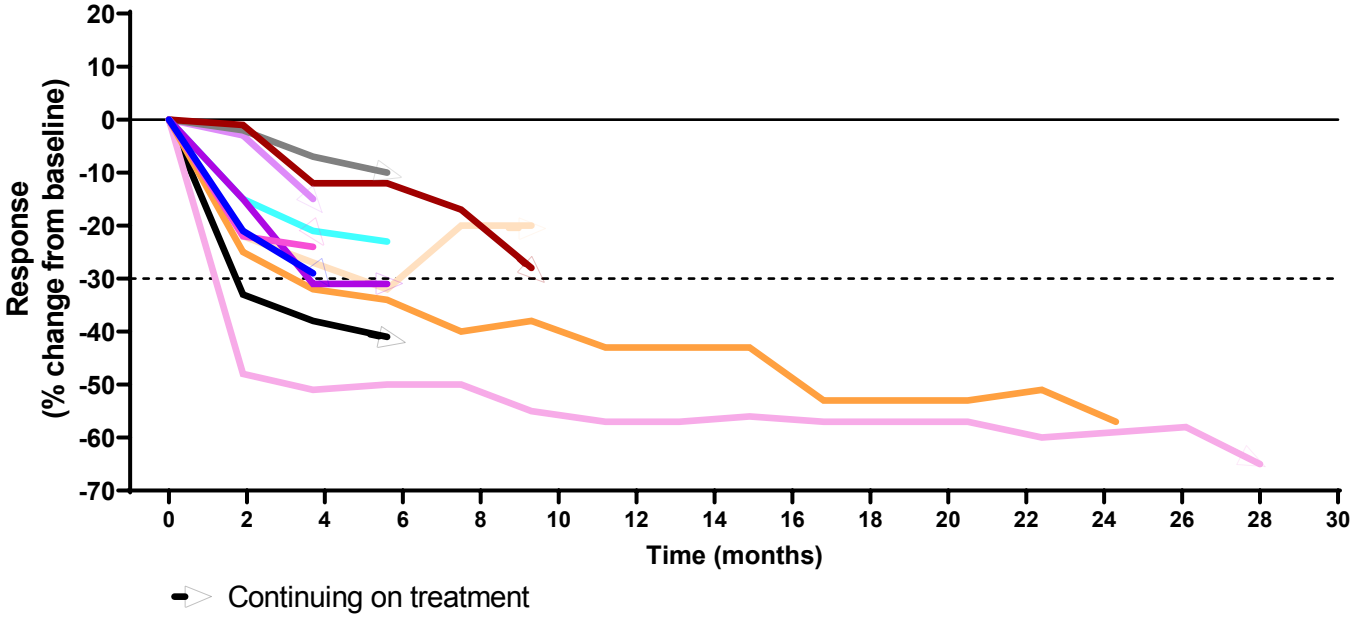
- KRAS-G12 mutations ORR = 56% (5/9); data still maturing
- Current ORR = 41% (7/17); data still maturing
- 5/7 PRs in pts who had previous MEKi[1]
- 9/17 (53%) still on study[2]
- 3 pts on treatment for ~2 yrs or more

[1] Patients came off prior MEKi treatment primarily for progression
[2] Data cutoff date August 17, 2020

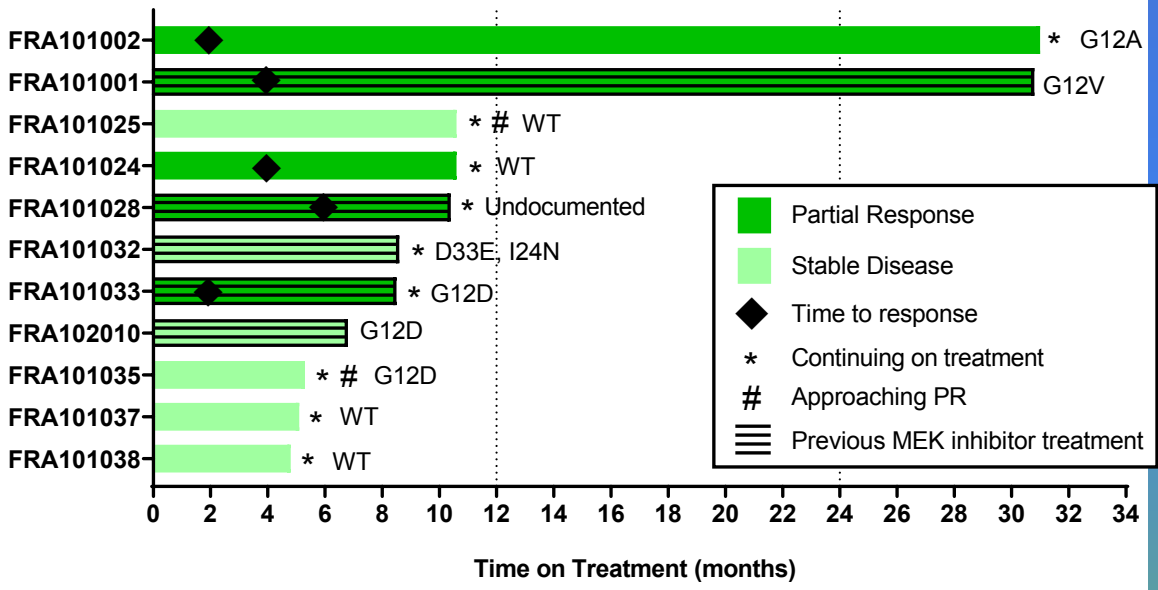
VS-6766 in Combination with Defactinib Shows Robust ORR with Durability in Refractory LGSOC at Phase 2 Dose Level

All patients on RP2D: 3.2 mg VS-6766 (2x/wk) + 200 mg Defactinib (BID) q3/4 wks

Response by RECIST



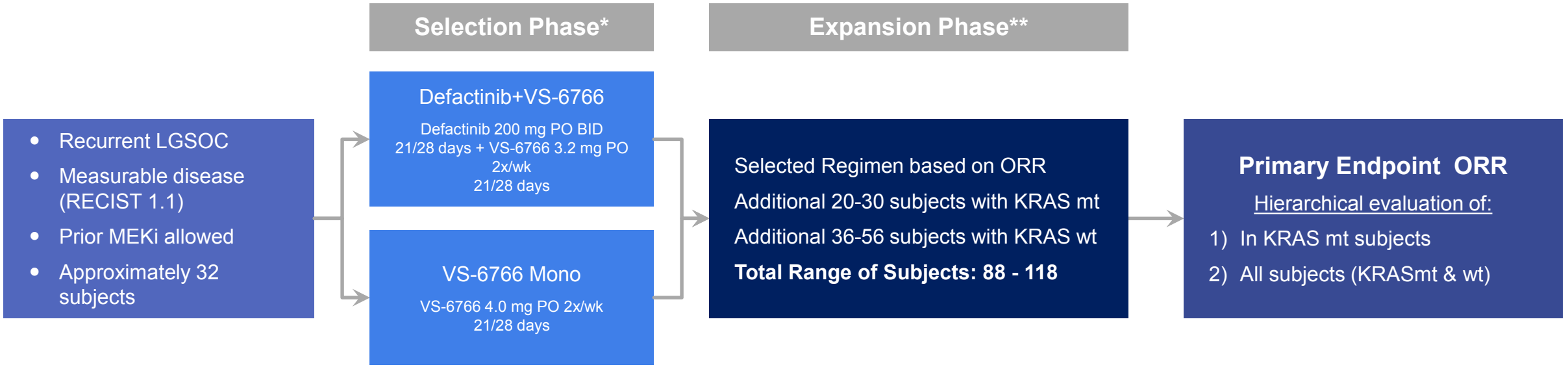
Time on Treatment



- ORR in KRAS mt = 50% (3/6); data still maturing
- Current overall ORR = 45% (5/11); data still maturing
- 9/11 (82%) still on study at RP2D[1]
- 2 pts on treatment for 2.5 yrs

[1] Data cutoff date August 17, 2020

KRAS Mutated (mt) and Wild Type (wt), Phase 2, Recurrent LGSOC Adaptive Design for Potential Accelerated Approval



FDA Was Supportive of Development Strategy and Adaptive Design

This Registration-directed Phase 2 Study is Expected to Commence by Year End 2020

* Selection Phase – KRAS mt only
** Expansion Phase – final sample size to be adjusted based on adaptive design

Low-Grade Serous Ovarian Cancer

Treatment Landscape and Clinical Perspective

Rachel Grisham, MD
Memorial Sloan Kettering Cancer Center

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What is Low-Grade Serous Ovarian Cancer (LGSOC)?

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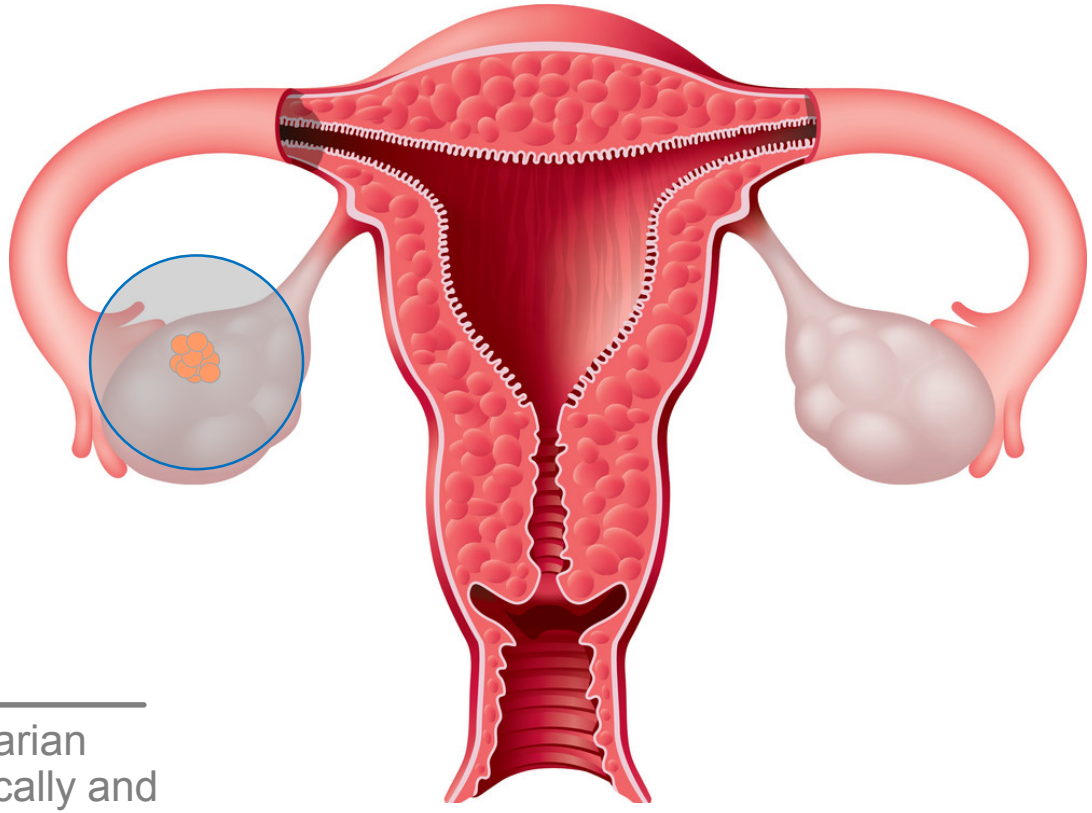
- LGSOC is a type of ovarian cancer that disproportionately affects younger women
- 1,000 to 2,000 patients in the U.S. and 15,000 to 30,000 worldwide diagnosed with LGSOC each year
- A slow growing cancer, that has a median survival of almost 10 years, so patients remain in treatment for a long time
- 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



Source: 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-Grade Serous Ovarian Cancer: Current Treatment Paradigms and Future Directions; Curr Treat Options Oncology; 2018.

Treatment Landscape and Clinical Perspective

Rachel Grisham, MD
Memorial Sloan Kettering Cancer Center

Bio: Dr. Grisham is a medical oncologist with clinical expertise in the diagnosis and treatment of women with gynecologic malignancies including ovarian, uterine, and cervical cancers as well as other less common tumors. Her clinical research focuses on developing novel treatments and improving treatment strategies for women with gynecologic malignancies. She has a particular interest in the use of targeted therapies for the treatment of recurrent ovarian cancer. She has developed, and serves as the principal investigator for, ongoing clinical trials in this area. Dr. Grisham earned her M.D. degree from Duke University School of Medicine. She completed her residency at Massachusetts General Hospital and subsequently held fellowships at Weill Cornell Medical College and Memorial Sloan Kettering Cancer Center.

Low-Grade Serous Ovarian Cancer

Market Opportunity

Brian Stuglik
Chief Executive Officer

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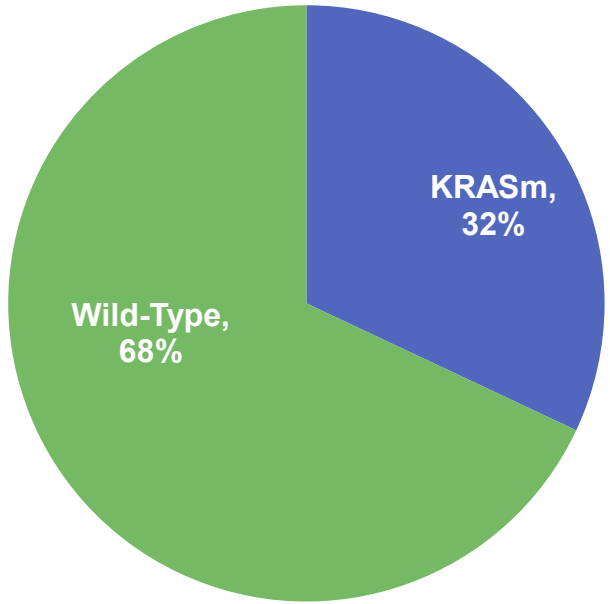
LGSOC: Key Drivers Are KRAS/NRAS/BRAF Mutations

	Incidence	10 Yr Prevalence
Worldwide	~15,000 – 30,000	~80,000
US	~1,000 – 2,000	~6,000

32% of LGSOC Patient Have KRAS Mutations



- Wild-type KRAS includes NRAS and BRAF mutations, among others

*Based on LGSOC representing 5-10% of epithelial ovarian cancer

LGSOC: Limited Treatment Options With High Unmet Need

Low-Grade Ovarian Cancer – Treatment Algorithm[1]

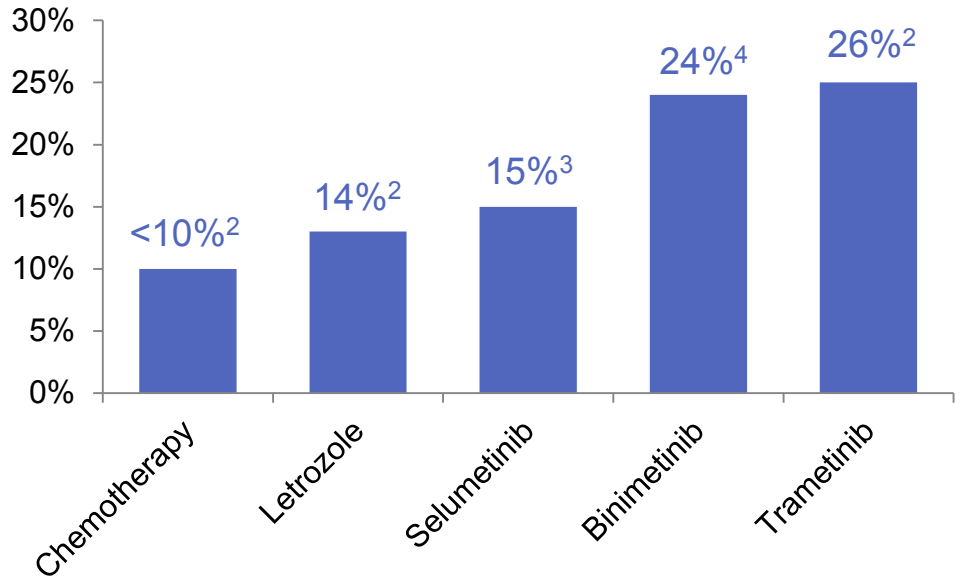
Stage IA-IB → **Observe only**

Stage IC / **Stage II-IV** → Pt Chemo Combo:
Carbo-Pt + Paclitaxel (preferred)
+ Beva for Stage II-IV (incl maintenance Beva)
OR Hormonal Tx (2B)

→ ***Recurrence***

Pt-Sensitive	***Pt-Resistance***
• Pt-Chemo combo +/- Beva • **Trametinib** • **Fulvestrant**	• Taxane or gemcitabine, or doxorubicine, or topotecan +/- Beva • **Trametinib** • **Fulvestrant**

Limited Response Rates for Available Treatments:



- 31-35% discontinuation rate with MEK inhibitors due to AEs
- No discontinuations in the FRAME study due to AEs

[1] NCCN guidelines
[2] Gershenson, et al. ESMO 2019.
[3] Farley, et al. Lancet Oncology, 2013.
[4] Grisham, Monk, Banerjee, et al. IGCS 2019.

Validating Clinical Data in LGSOC
VS-6766 ± Defactinib Represents Best in Class Market Opportunity in LGSOC

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Key Takeaways

- KRAS mutations account for 32%[1] of LGSOC cases
- No FDA-approved therapy; limited treatment options
- Unmet medical need creates large market opportunity
- ~6,000 patients living with the disease; ultra-orphan opportunity
- FRAME study: 56% ORR in KRAS-G12m LGSOC and 41% ORR in overall LGSOC represents best-in-class opportunity
- FDA supportive of development strategy and registration trial design

Next Steps

- Commence Phase 2 registration-directed trial by the end of 2020
- Report updated data from FRAME LGSOC cohort in mid-2021

[1] AACR Project Genie, cBioportal

Other Program Updates

Brian Stuglik
Chief Executive Officer

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NSCLC Clinical Strategy: KRAS Mutant (mt), Enriched G12V, Phase 2, Recurrent NSCLC for Potential Accelerated Approval

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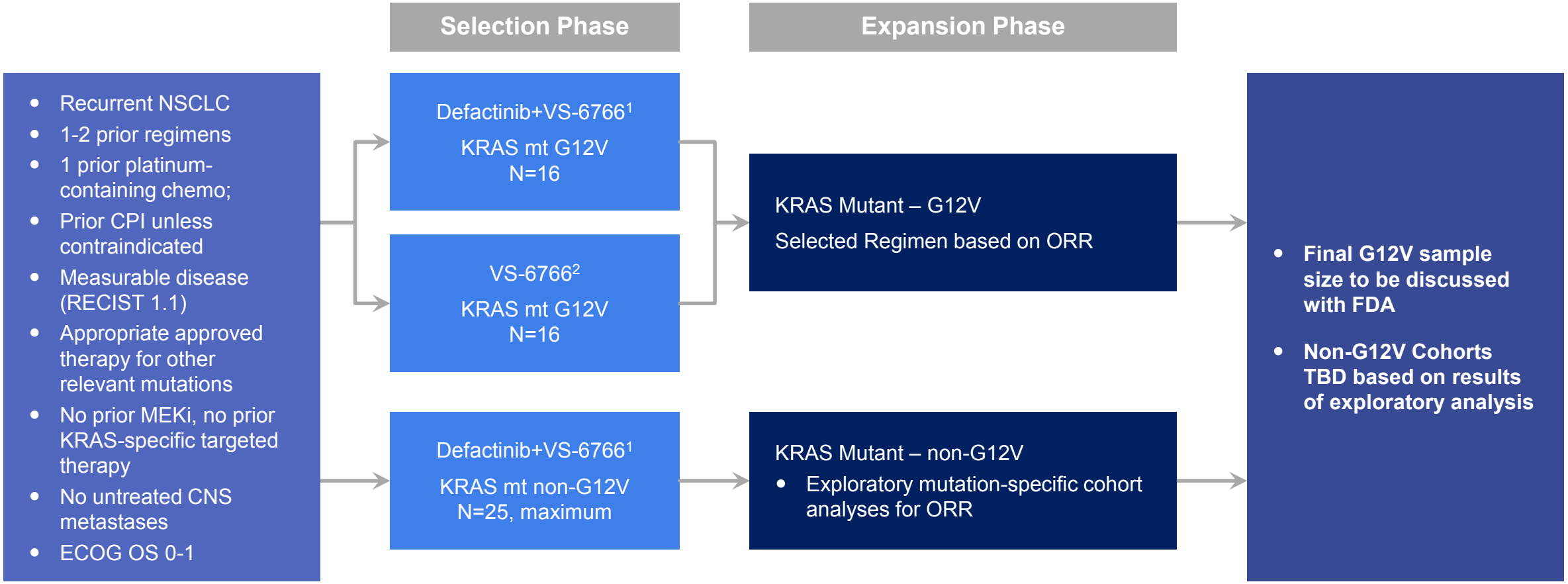

This Registration-directed Phase 2 Study is Expected to Commence by Year End 2020

[1] 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)

Continuing to Move VS-6766 Forward Aggressively With Additional Opportunities

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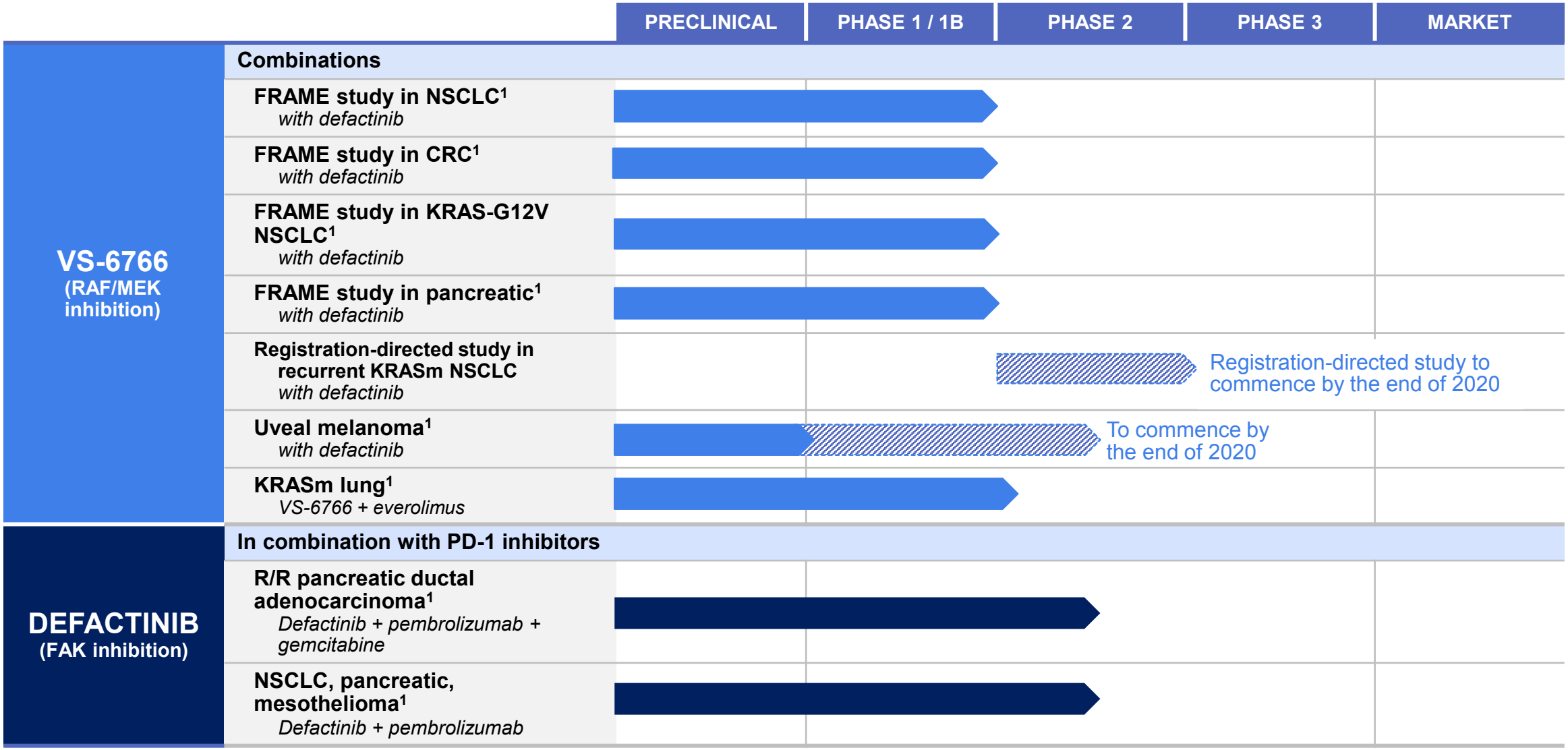
NSCLC

- Go-forward strategy is to focus primarily on KRAS G12V patients in NSCLC given clinical signals to-date
- KRAS G12V cohort added to ongoing FRAME study
- Completing Phase 1 investigating VS-6766 in combination with everolimus; plan to advance to Phase 2 in KRASm non-G12V NSCLC
- Reported new preclinical data demonstrating strong synergy and tumor regression with G12C inhibitors in combination with VS-6766 and FAK inhibitor *in vitro* and *in vivo*

Other Tumor Areas

- Expanded FRAME study to include pancreatic and KRASm endometrial patient cohorts to provide early efficacy signals
- Uveal melanoma IST expected to commence by the end of 2020
- VS-6766 enhances efficacy of anti-PD-1 in preclinical models

Other High Priority Lead Indications with Multiple Growth Opportunities



[1] Investigator-sponsored study

Corporate

Rob Gagnon
Chief Financial Officer

Verastem Oncology

Selling COPIKTRA® (duvelisib) Rights to Secura Bio

- Total Deal Value Up to $311 Million, Plus Royalties
- Provides Cash Runway Through at Least 2024
- New Verastem Headcount of ~50
- Beginning in 2021 Annual OPEX Expected to be ~$50 Million
- Secura Bio to Assume All Operational and Financial Responsibilities, Including Existing Royalty Obligations

Key Financial Statistics

Cash, cash equivalents & short-term investments as of 6/30/2020	**$160.8M**
Proforma cash (as of June 30, 2020) of $230 million *Inclusive of $70 million received upfront at closing*	**$230M**
Shares fully diluted as of 6/30/2020	188.2M
Hercules Term Loan Facility as of 6/30/2020	$35.0M*
5.00% Convertible Senior Notes Due 2048 (2018 Notes) as of 6/30/2020	$28.3M**
Insider ownership (outstanding / vested) as of 6/30/2020	8.3% / 4.3%

* On April 23, 2019, we entered into a 4th Amendment to our existing Agreement with Hercules Capital, Inc. whereas we may borrow up to an aggregate amount of $75.0 million, of which $35.0 million was outstanding as of the date of amendment and 6/30/2020.

** 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.

Key Upcoming Milestones for Remainder of 2020

VS-6766 & Defactinib

- ✓ Regulatory path forward in LGSOC and KRAS mutant NSCLC during the 3Q 2020
- ✓ Expand Phase 1/2 FRAME study to include new cohorts in pancreatic cancer, KRASm endometrial cancer and KRAS-G12V NSCLC
- ✓ Present updated data from the LGSOC cohort of the Phase 1/2 FRAME study in Sept 2020
- ✓ Present preclinical findings in combination w/G12C inhibitors in Sept 2020
- ○ Commence registration-directed trial in recurrent LGSOC by year end 2020
- ○ Commence registration-directed trial in recurrent KRASm NSCLC by year end 2020

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- ✓ Monetize COPIKTRA; extend cash runway through at least 2024
- ✓ Reduce OPEX for 2021
- ○ Close Secura Bio transaction in 3Q 2020

Thank you

Questions and Answers