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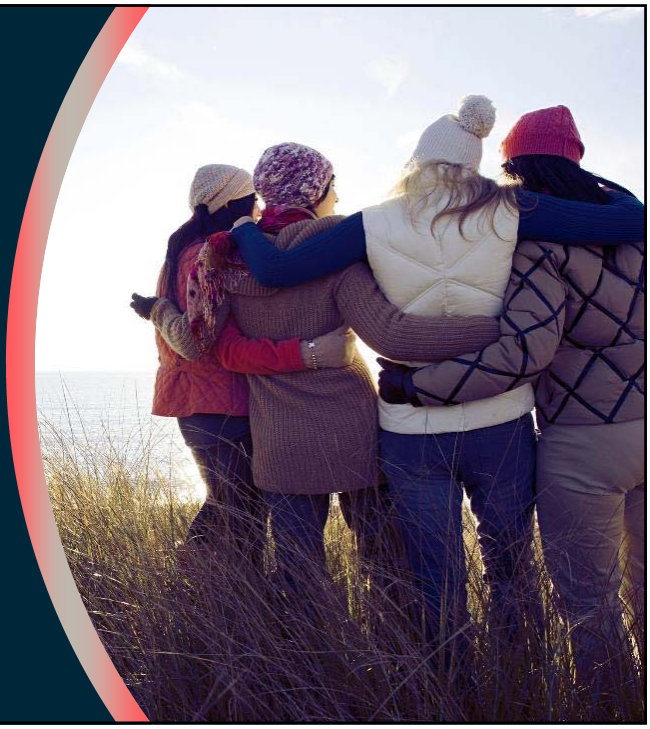
# FORWARD II PROGRAM UPDATE

NASDAQ: IMGN

May 17, 2018



## FORWARD-LOOKING STATEMENTS

This presentation includes forward-looking statements based on management's current expectations. These statements include, but are not limited to, ImmunoGen's expectations related to: the occurrence, timing and outcome of potential pre-clinical, clinical and regulatory events related to the Company's and its collaboration partners' product programs; the presentation of preclinical and clinical data on the Company's and its collaboration partners' product candidates; and the financial guidance provided. For these statements, ImmunoGen claims the protection of the safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Various factors could cause ImmunoGen's actual results to differ materially from those discussed or implied in the forward-looking statements, and you are cautioned not to place undue reliance on these forward-looking statements, which are current only as of the date of these slides. Factors that could cause future results to differ materially from such expectations include, but are not limited to: the timing and outcome of ImmunoGen's and its collaboration partners' research and clinical development processes; the difficulties inherent in the development of novel pharmaceuticals, including uncertainties as to the timing, expense and results of preclinical studies, clinical trials and regulatory processes; ImmunoGen's ability to financially support its product programs; the Company's dependence on its collaborative partners; industry merger and acquisition activity; and other factors more fully described in ImmunoGen's Annual Report on Form 10-K for the year ended December 31, 2017 and other reports filed with the Securities and Exchange Commission.

## EXECUTING ON OUR HIGHEST STRATEGIC PRIORITY: MIRVETUXIMAB SORAVTANSINE

### FORWARD I

- Patient enrollment completed ahead of schedule
- Trial continuing as planned following successful pre-specified interim futility analysis
- Top-line data on-track to be reported in IH19

### FORWARD II

- Updated data from the Keytruda® cohort at SGO Annual Meeting
- Data from Avastin® expansion cohort in over 50 patients at ASCO 2018
- Updated data from carboplatin escalation cohort
- Initiated triplet cohort in January

### CLINICAL COLLABORATIONS

- Co-sponsoring mirvetuximab + Rubraca® combination study in ovarian cancer with Clovis
- Multiple studies underway underway with NCCN in FRα-positive tumor types

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Rubraca® is a registered trademark of Clovis



## COMPREHENSIVE DEVELOPMENT STRATEGY FOR MIRVETUXIMAB

FORWARD I

- Establish initial position through single-agent monotherapy in ovarian cancer

FORWARD II

- Expand benefit through combinations in earlier lines of ovarian cancer

NCCN National Comprehensive Cancer Network® | CLOVIS ONCOLOGY

- Broaden use into additional FRα-positive solid tumors (NSCLC, endometrial and triple-negative breast cancer)

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# LABEL EXPANSION:

## BECOME THE COMBINATION AGENT OF CHOICE

FORWARD II

ENROLLMENT:
Patients with recurrent platinum-resistant or platinum-sensitive FRα-positive ovarian cancer

MIRVETUXIMAB

- AVASTIN®
  - Avastin® expansion cohort ongoing
- KEYTRUDA®
  - Keytruda® expansion cohort ongoing
- CARBOPLATIN
  - mirvetuximab+carboplatin+Avastin® triplet expansion cohort ongoing

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Avastin® is a registered trademark of Genentech
Keytruda® is a registered trademark of Merck



# NEED FOR EFFECTIVE COMBINATIONS

## CURRENT TREATMENTS FOR BOTH PLATINUM-RESISTANT AND PLATINUM-SENSITIVE OVARIAN CANCER

| PLATINUM-RESISTANT OVARIAN CANCER | | PLATINUM-SENSITIVE OVARIAN CANCER | |
|---|---|---|---|
| AURELIA[1] | | OCEANs[2] | GOG213[3] |
| Regimen | Chemo/Avastin | Carbo/Gem | Carbo/Tax |
| Median age | 61 | 61 | 60 |
| Patient population | Platinum resist 1-2 priors<br>60% - 1 prior<br>40% - 2 prior | plat sensitive,<br>1 prior | plat sensitive,<br>1 prior |
| Prior Avastin | 7% | 0 | 10% |
| ORR | 27% | 57% | 56% |
| mPFS (mo) | 6.7 (95% 5.7, 7.9) | 8.4 (95% 8.3, 9.7) | 10.4 (95% 9.7-11) |

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[1]Pujade-Lauraine, et al., JCO 32:1302 (2014)
[2]Aghajanian, et al., JCO 30:2039 (2012)
[3]Coleman, et al., Lancet Oncol 18:779 (2017)

| AVASTIN[1] HEAVILY PRE-TREATED PLATINUM-RESISTANT | | |
|---|---|---|
| ALL (n=54) | MED + HIGH 1-3 Priors (n=23) | MED + HIGH 1-2 Priors Avastin-naïve (n=16) |
| 43% ORR | 48% ORR | 50% ORR |
| 7.8 months mPFS | 9.9 months mPFS | 9.9 months mPFS |
| 10.6 months mDOR | 10.6 months mDOR | 12.0 months mDOR |

# AVASTIN
## EXPANSION COHORT

- Mirvetuximab in combination with Avastin shows early evidence of anti-tumor activity with durable responses
- Greatest benefit seen among the subset of patients with medium or high FRα expression levels, which is the population being studied in the FORWARD I Phase 3 trial
- Encouraging efficacy results support further trials of this novel therapeutic combination
- Safety profile in line with known profiles of each agent

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[1]ASCO 2018 O'Malley D., et al.
Avastin® is a registered trademark of its owner.
ORR: objective response rate; mPFS: median progression-free survival; mDOR: median duration of response



| CARBOPLATIN[1] PLATINUM-SENSITIVE | |
|---|---|
| ALL (n=17) | MED+HIGH (n=10) |
| 71% ORR | 80% ORR |
| 15.0 months mPFS | 15.0 months mPFS |
| *mDOR not yet reached* | *mDOR not yet reached* |

# CARBOPLATIN
## MATURE DOSE-ESCALATION COHORT FINDINGS

- Mirvetuximab in combination with carboplatin appears well-tolerated and highly active in patients with recurrent, platinum-sensitive ovarian cancer
- Further evaluation of this combination in a randomized fashion is warranted
- Recent data support ongoing triplet designed to evaluate mirvetuximab + carboplatin + Avastin in patients with recurrent platinum-sensitive disease

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[1]Company data - manuscript in preparation.
ORR: objective response rate; mPFS: median progression-free survival

| KEYTRUDA[1] PLATINUM-RESISTANT | ALL (n=14) | MED+HIGH (n=8) |
|---|---|---|
| | 43% ORR | 63% ORR |
| | 5.2 months mPFS | 8.6 months mPFS |
| | 7.0 months mDOR | 8.3 months mDOR |

# KEYTRUDA
## DOSE ESCALATION COHORT

- Mirvetuximab in combination with Keytruda shows early evidence of anti-tumor activity with durable responses and favorable tolerability profile
- Greatest benefit seen among the subset of patients with medium or high FRα expression levels, which is the population being studied in the FORWARD I Phase 3 trial
- Expansion cohort completing enrollment, expect to report initial findings later this year

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[1]SGO 2018 Matulonis U., et al.
Keytruda® is a registered trademark of its owner.
ORR: objective response rate; mPFS: median progression-free survival; mDOR: median duration of response



# MIRVETUXIMAB COMBINATIONS OFFER POTENTIAL TO TREAT MORE WOMEN WITH OVARIAN CANCER

| AVASTIN[1] HEAVILY PRE-TREATED PLATINUM-RESISTANT Med. No. of Prior Therapies (Range): 3 (1-8) | ALL (n=54) | MED+HIGH (n=23) |
|---|---|---|
| | 43% ORR (95% CI 29,57) | 48% ORR (95% CI 27,69) |
| | 7.8 months mPFS (95% CI 5.6,10.2) | 9.9 months mPFS (95% CI 4.6,14.5) |
| | 10.6 months mDOR (95% CI 4.9,-) | 10.6 months mDOR (95% CI 3.3,12.0) |

| CARBOPLATIN[2] PLATINUM-SENSITIVE Med. No. of Prior Therapies (Range): 2.5 (1-6) | ALL (n=17) | MED+HIGH (n=10) |
|---|---|---|
| | 71% ORR (95% CI 44,90) | 80% ORR (95% CI 44,98) |
| | 15.0 months mPFS (95% CI 9.9,-) | 15.0 months mPFS (95% CI 9.9,-) |
| | *mDOR not yet reached* | *mDOR not yet reached* |

| KEYTRUDA[3] PLATINUM-RESISTANT Med. No. of Prior Therapies (Range): 4.5 (2-7) | ALL (n=14) | MED+HIGH (n=8) |
|---|---|---|
| | 43% ORR (95% CI 18,71) | 63% ORR (95% CI 25,92) |
| | 5.2 months mPFS (95% CI 1.6,9.5) | 8.6 months mPFS (95% CI 1.6,-) |
| | 7.0 months mDOR (95% CI 3.4,-) | 8.3 months mDOR (95% CI 3.4,-) |

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[1]ASCO 2018 O'Malley D., et al.; [2]Company data - manuscript in preparation; [3]SGO 2018 Matulonis U., et al.
Avastin® and Keytruda® are registered trademarks of their respective owners.
ORR: objective response rate; mPFS: median progression-free survival; mDOR: median duration of response

# MIRVETUXIMAB COMBINATIONS OFFER POTENTIAL TO TREAT MORE WOMEN WITH OVARIAN CANCER[1]

CONSISTENCY OF FINDINGS UNDERSCORE POTENTIAL OF MIRVETUXIMAB TO TREAT PATIENTS WITH PLATINUM-RESISTANT AND PLATINUM-SENSITIVE OVARIAN CANCER

- Results have indicated a favorable safety profile with adverse events in-line with known profiles of each agent – full dose of each agent able to be combined
- Encouraged by early evidence of anti-tumor activity with durable responses
- Recent data support ongoing triplet designed to evaluate a mirvetuximab + carboplatin + Avastin in patients with recurrent platinum-sensitive disease
- Totality of data will guide next stages of development and support path to registration for combination regimens

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[1]O'Malley et al, abstract 5553, ASCO 2017