a new approach

geron

John A. Scarlett, M.D., CEO
Jefferies Global Healthcare Conference
June 6, 2012

forward-looking statement

Except for the historical information contained herein, this presentation contains forward-looking statements made pursuant to the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Investors are cautioned that without limitation, the following statements in this presentation regarding Geron's plans or expectations for or of: (a) dates in 2012 or 2013 to obtain top-line data from any of the Phase 2 clinical trials; (b) prospects for the clinical success of any of the product candidates; (c) having conventional milestone and royalty structure on GRN1005; (d) having U.S. patent protection through 2025 for GRN1005 and 2026 for imetelstat; and (e) having a sufficient cash runway to fund the Company through Phase 2 milestones, constitute forward-looking statements. These statements involve risks and uncertainties that can cause actual results to differ materially from those in such forward-looking statements. These risks and uncertainties, include without limitation, regarding: (a) dates to enroll patients or obtain top-line data - delays in enrollment, delays caused by institutional review boards or regulatory agencies, shortage of supply, dependence on clinical trial collaborators, insufficient number of progression events, and safety issues; (b) clinical success of the product candidates - those risks and uncertainties inherent in the development of potential therapeutic products such as successful clinical trial results, and challenges to or enforcement of Geron's intellectual property rights; (c) having conventional milestone and royalty structure on GRN1005 - ability to obtain and enforce our patents, challenges to and enforcement of Geron's intellectual property rights, and new third-party patents; (d) having U.S. patent protection through 2025 for GRN1005 and 2026 for imetelstat - challenges to or enforcement of Geron's intellectual property rights, and new third-party patents; (e) having a sufficient cash runway to fund the Company through Phase 2 milestones - unanticipated expenses, such as those related to clinical trials, manufacturing, litigation and challenges to or enforcement of Geron's intellectual property rights. More detailed additional information and factors that could cause actual results to differ materially from those in the forward-looking statements are contained in Geron's periodic reports filed with the Securities and Exchange Commission under the heading "Risk Factors," including the annual report on Form 10-K for the year ended December 31, 2011 and quarterly report on Form 10-Q for the quarter ended March 31, 2012. Undue reliance should not be placed on forward-looking statements, which speak only as of the date they are made, and the facts and assumptions underlying the forward-looking statements may change. Except as required by law, Geron disclaims any obligation to update these forward-looking statements to reflect future information, events or circumstances.

geron

- a **new** focus…

  addressing large, unmet **oncology** needs

- with **a new** team…

  that has a history of successful **leadership** in clinical drug development and biotech transactions that deliver shareholder value

two new approaches to cancer

novel, first-in-class compounds

IMETELSTAT

inhibitor of telomerase,

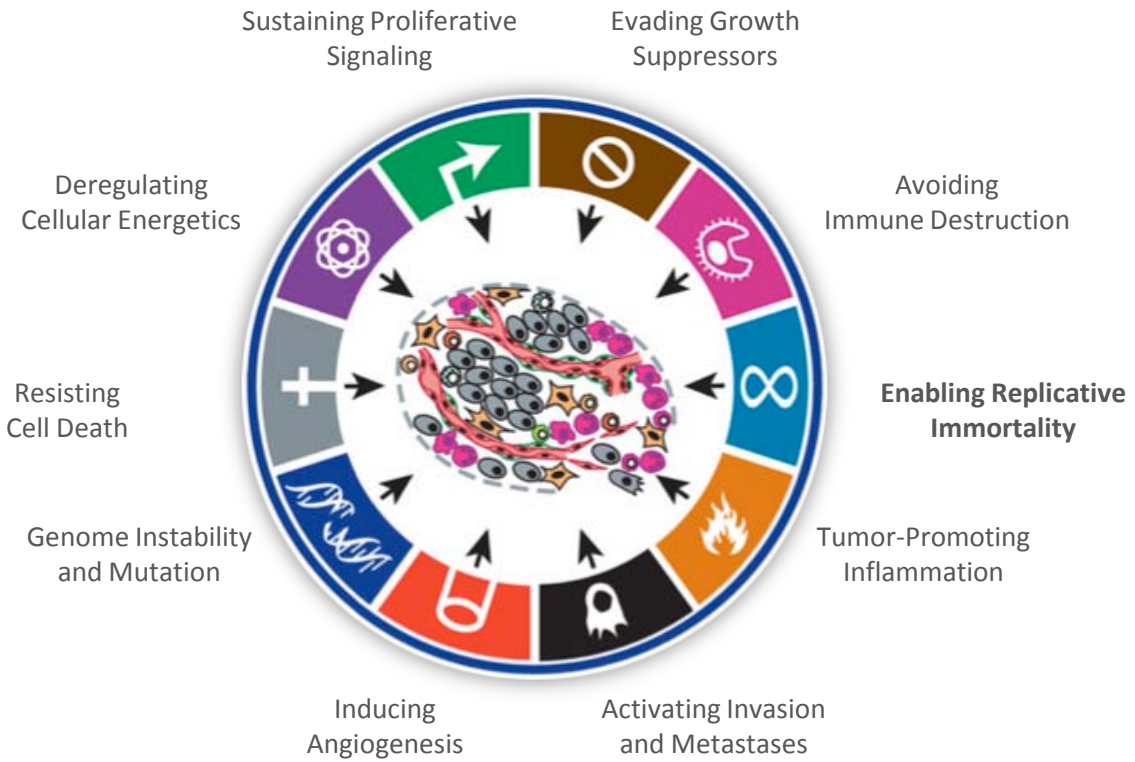
a key molecular cancer target up-regulated in ~90% of human tumors

GRN1005

peptide-drug conjugate

designed to **transport** **paclitaxel** to brain tumors across blood-brain barrier

the hallmarks of cancer



Source: "Hallmarks of Cancer: The Next Generation" - Douglas Hanahan and Robert Weinberg, Cell 144, March 4, 2011

targeting the hallmarks – a highly successful strategy

Herceptin
~$6B Annual Revenue in 2011

Tarceva
~$1.5B Annual Revenue in 2011

Nexavar
~$1B Annual Revenue in 2011

EGFR Inhibitors

Kinase Inhibitors

Avastin
~$6B Annual Revenue in 2011

VEGF Inhibitors

Source: "Hallmarks of Cancer: The Next Generation" - Douglas Hanahan and Robert Weinberg, Cell 144, March 4, 2011

telomerase

a previously **untargeted** hallmark of cancer

Herceptin
~$6B Annual Revenue in 2011

EGFR Inhibitors

Tarceva
~$1.5B Annual Revenue in 2011

Kinase Inhibitors

Nexavar
~$1B Annual Revenue in 2011

Telomerase Inhibitors

Enabling Replicative Immortality

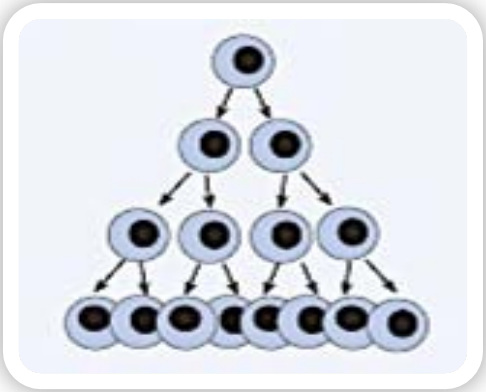
Imetelstat

Avastin
~$6B Annual Revenue in 2011

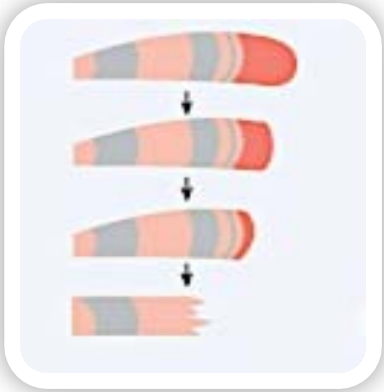
VEGF Inhibitors

how telomerase plays a fundamental role in cancer

cell division

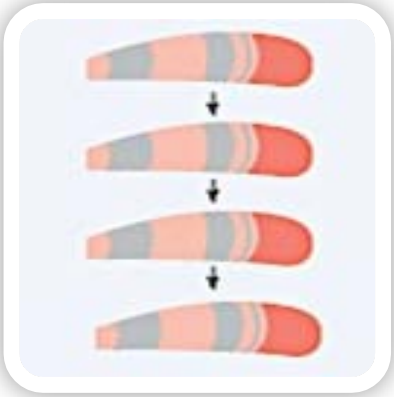


chromosome tips
without telomerase



Normal cells

chromosome tips
with telomerase



Cancer cells

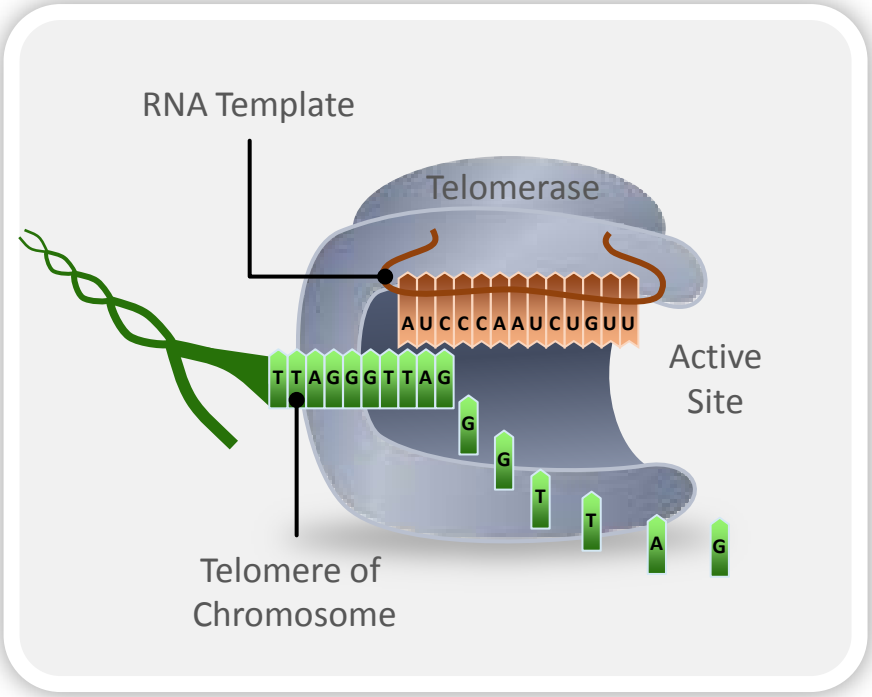
without telomerase,
chromosomes shorten with each cell division, leading to normal senescence/apoptosis

with telomerase upregulated,
telomeres are maintained, permitting replicative immortality in cancer cells

Source: The Nobel Committee for Physiology or Medicine, Illustrations by Annika Röhl

the challenge of drugging telomerase

telomere elongation



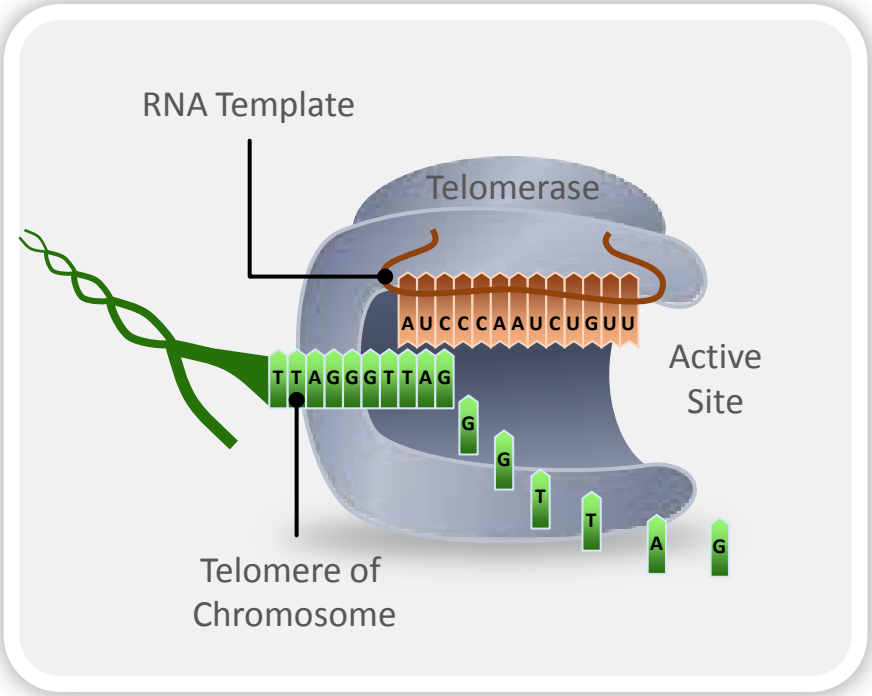
RNA template requires an oligonucleotide-like structure for high affinity binding

Intranuclear location subjects most oligos to nucleases & difficulty penetrating membranes

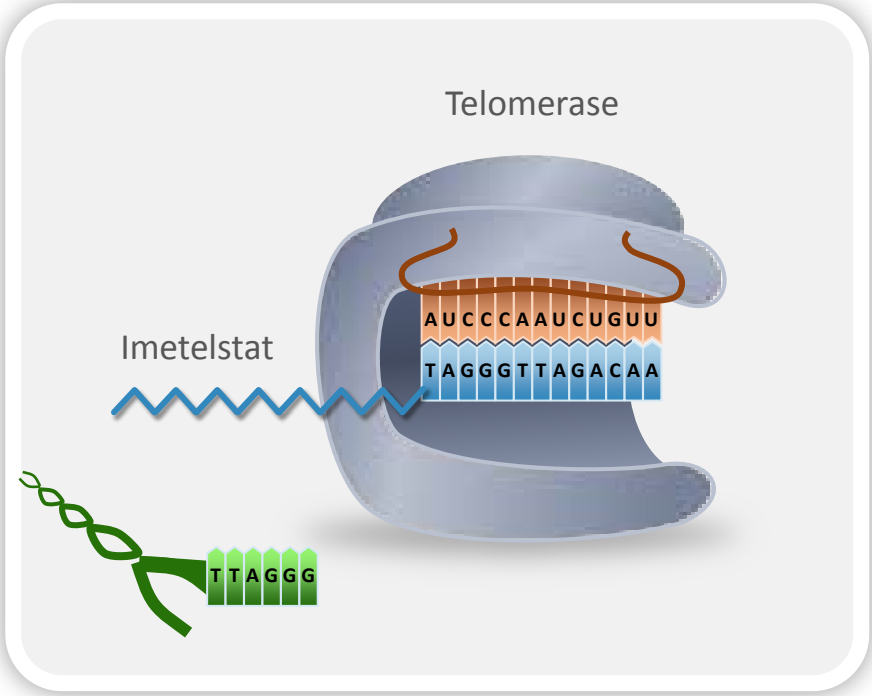
Width of active site makes small molecule inhibitors unlikely to be successful

competitive telomerase inhibition by imetelstat

telomere elongation

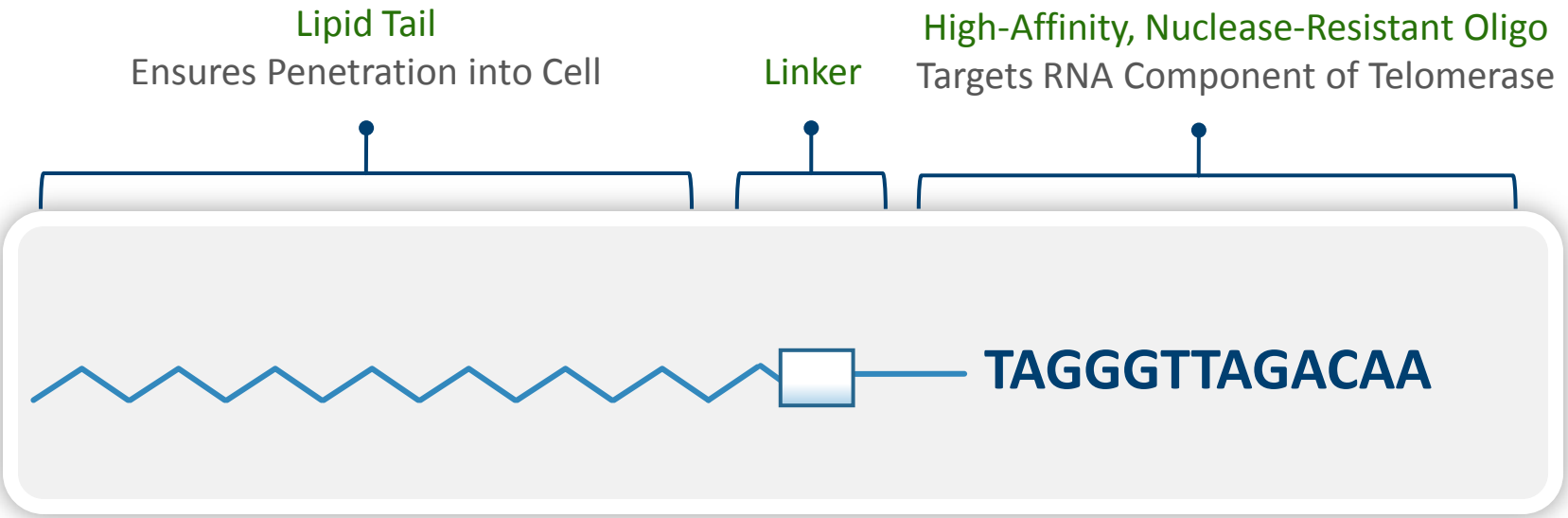


imetelstat binds to RNA template, preventing telomere elongation



imetelstat

first telomerase inhibitor to enter the clinic



innovative chemistry proprietary to Geron

imetelstat
preclinical summary

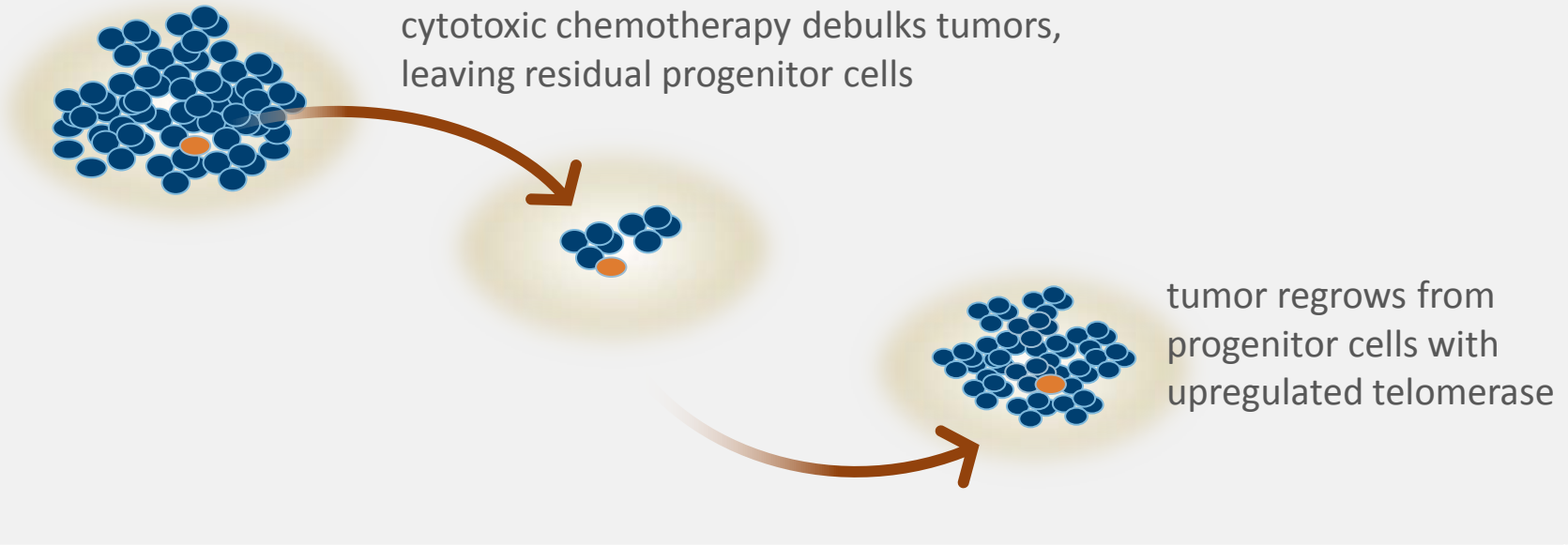
Imetelstat has been studied broadly in cell culture and animal models from a wide range of human tumor types, including pediatric & adult, solid & liquid, and neural, epithelial and hematologic tumors

telomerase is upregulated in ~90% of human tumors

in preclinical models, imetelstat:

- Inhibits telomerase and shortens telomeres
- Inhibits cancer cell growth in vitro and in vivo
- Inhibits proliferating cancer progenitor cells
- Shows additive or synergistic effects with approved anti-cancer agents (e.g., paclitaxel)

Targeting telomerase to arrest progenitor cell proliferation



imetelstat
phase 1 summary

broad phase 1 program

- PK – Target exposures achieved at MTD
- PD – Telomerase inhibition observed
- Dose-limiting toxicity:
  - Thrombocytopenia
  - Neutropenia (in combination with paclitaxel)
- Responses observed in combination with paclitaxel

183 subjects with relapsed or progressing solid tumors or hematologic malignancies, including breast, lung, multiple myeloma

single agent and in **combination** with paclitaxel, carboplatin and velcade

imetelstat phase 2 strategy

in solid tumors

debulk the tumor with cytotoxic chemotherapy,

paired with imetelstat

to maintain response by inhibiting cancer progenitor cell regrowth

metastatic breast cancer

Imetelstat

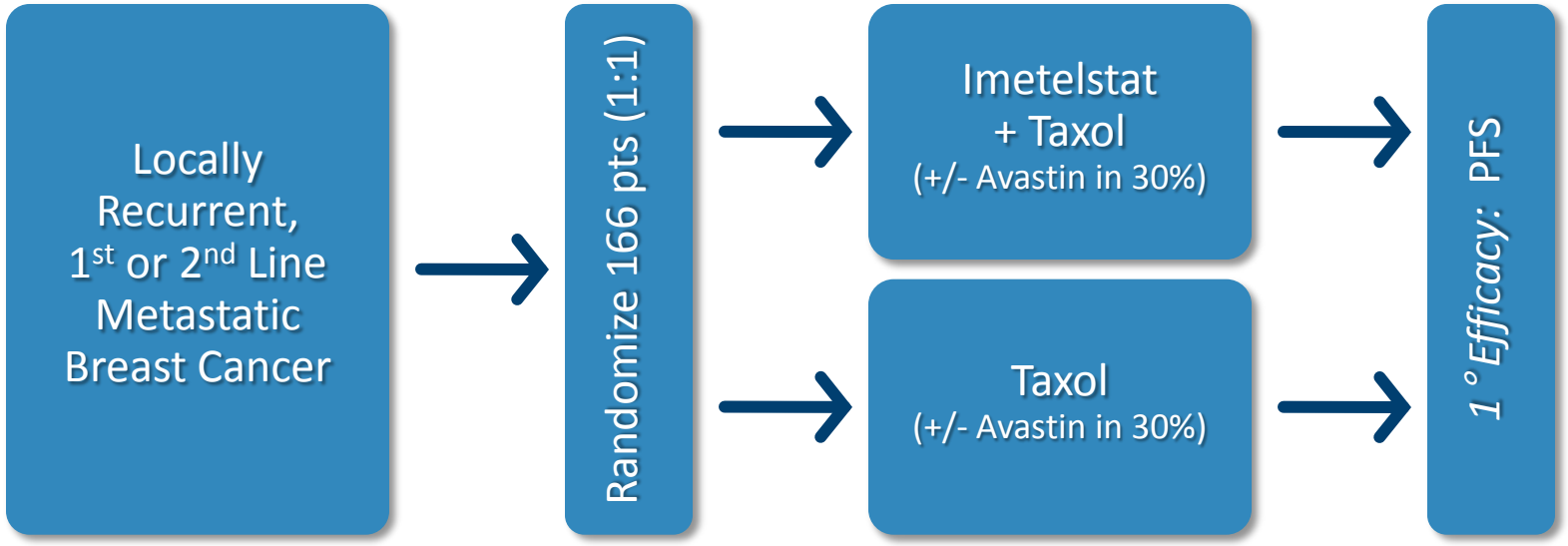
non-small cell lung cancer (NSCLC)

debulk the tumor with doublet cytotoxic chemotherapy,

followed by single agent imetelstat at a higher dose & frequency

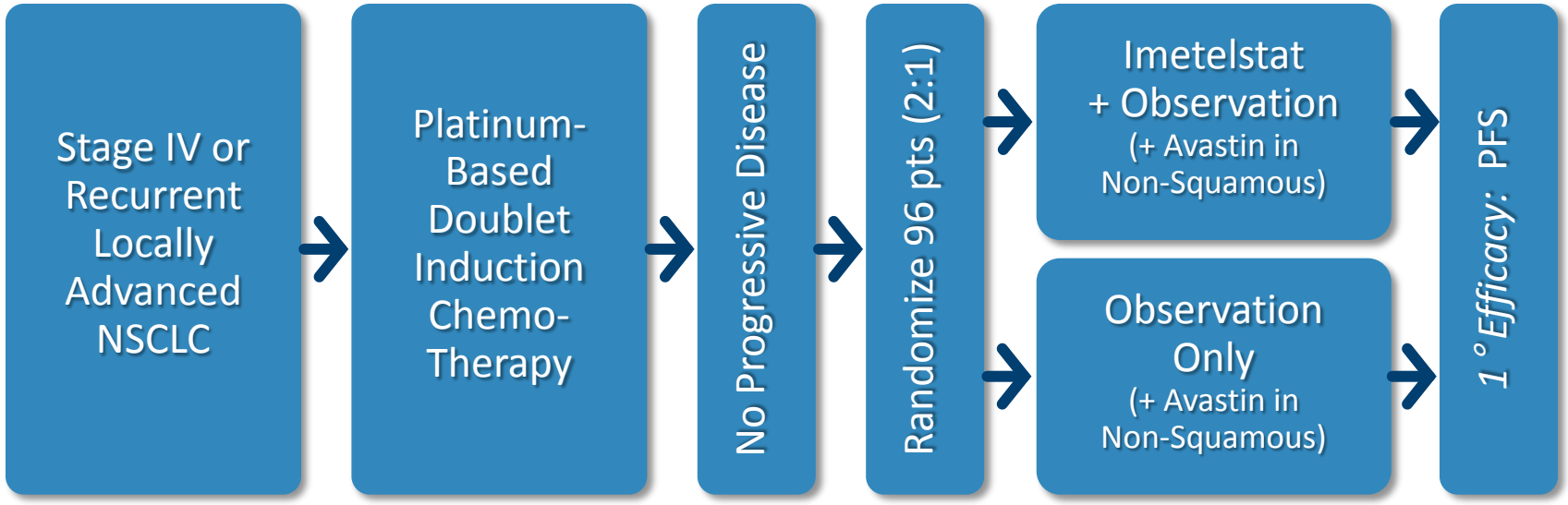
to maintain response by inhibiting cancer progenitor cell regrowth

imetelstat phase 2 randomized metastatic breast cancer study (n=166)



completed enrollment february 2012

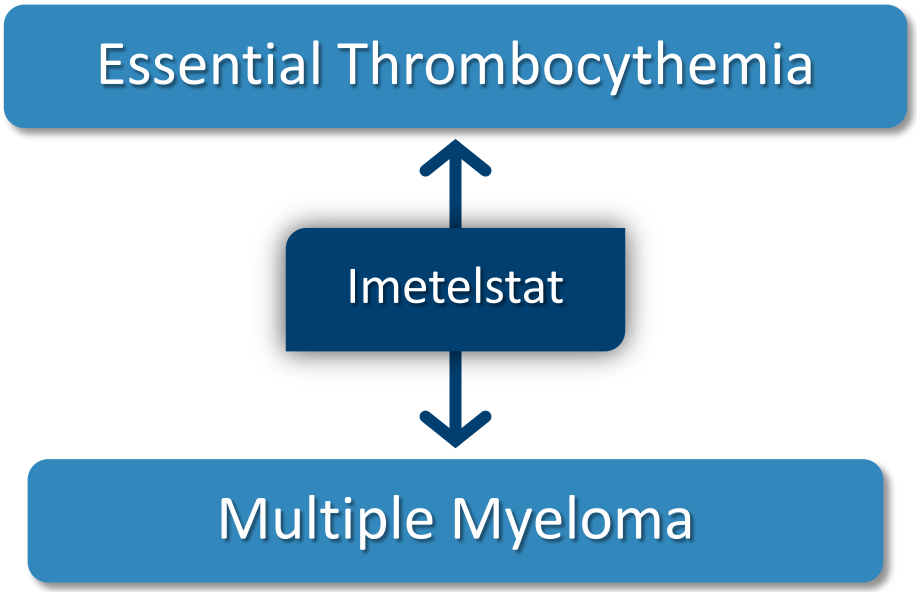
imetelstat phase 2 randomized advanced NSCLC study (n=96)



completed **enrollment** may 2012

imetelstat phase 2 proof-of-concept strategy in hematological malignancies

single agent imetelstat to inhibit hematopoietic progenitor cell clonal growth



single agent imetelstat to inhibit myeloid progenitor cell clonal growth

imetelstat phase 2 essential thrombocythemia study

Patients with ET/PV Requiring Therapy → Stratify by JAK2/MPL Mutations → Imetelstat → *1°Efficacy*: Reduction in Platelets *and* in Blood Cells with JAK2/MPL Mutations

recently **expanded** to include **polycythemia vera**

imetelstat phase 2
multiple myeloma study

Non-Progressing but Detectable Disease after Prior Cytoreductive Therapy

→

Imetelstat +/- Revlimid

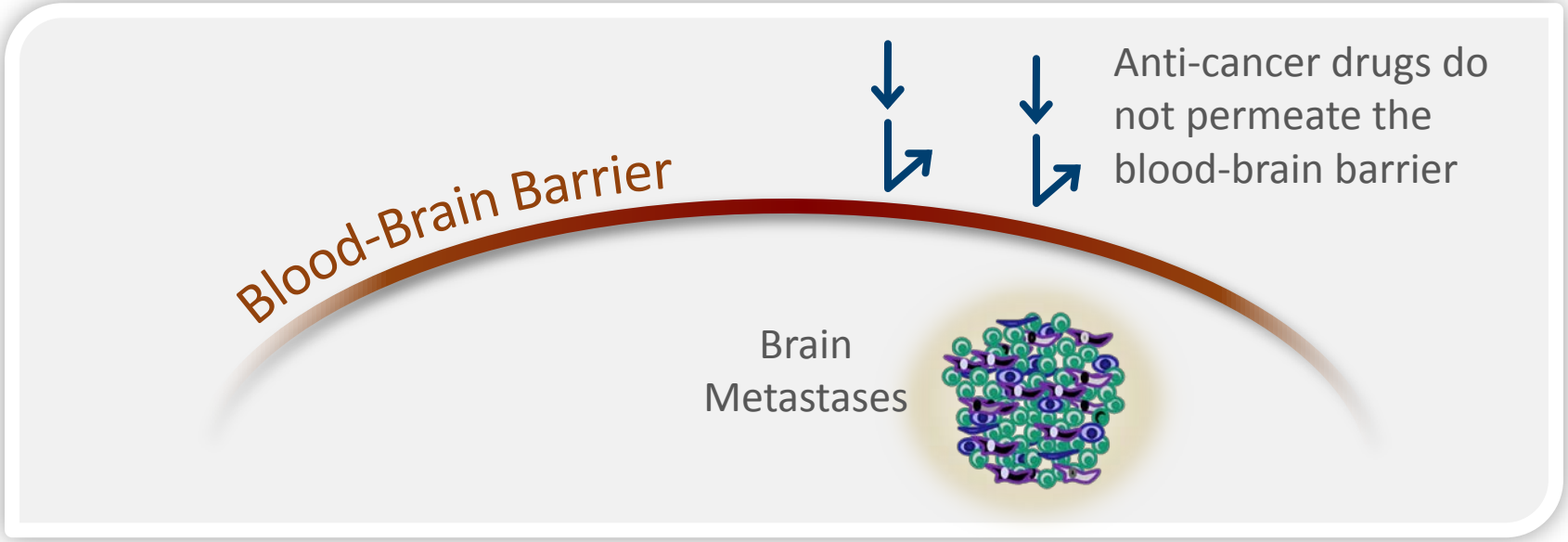
→

Efficacy: Decrease in Number of Myeloma Progenitor Cells in Bone Marrow and Blood

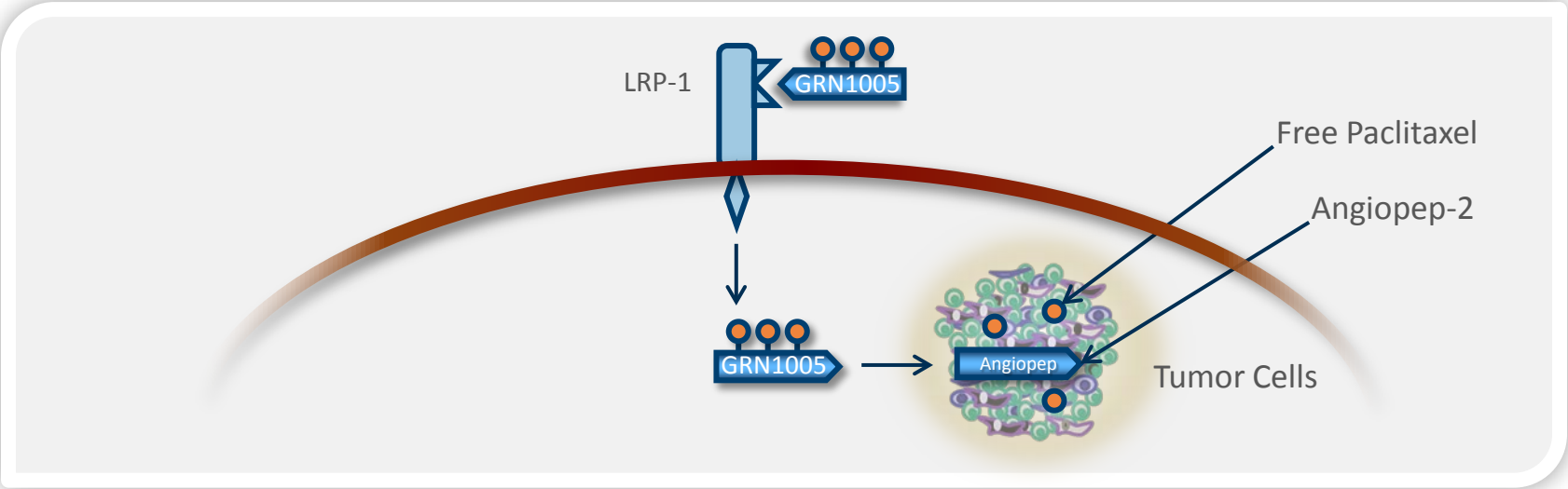
our clinical milestones

Product Candidate	Phase 1	Phase 2	Top-Line Results
IMETELSTAT			
Metastatic Breast Cancer			Q4 2012
Advanced Lung Cancer (NSCLC)			Q4 2012
Essential Thrombocythemia			Q4 2012
Multiple Myeloma			Q4 2012

the need for GRN1005



GRN1005 was designed to cross the blood-brain barrier via the LRP-1 transport mechanism

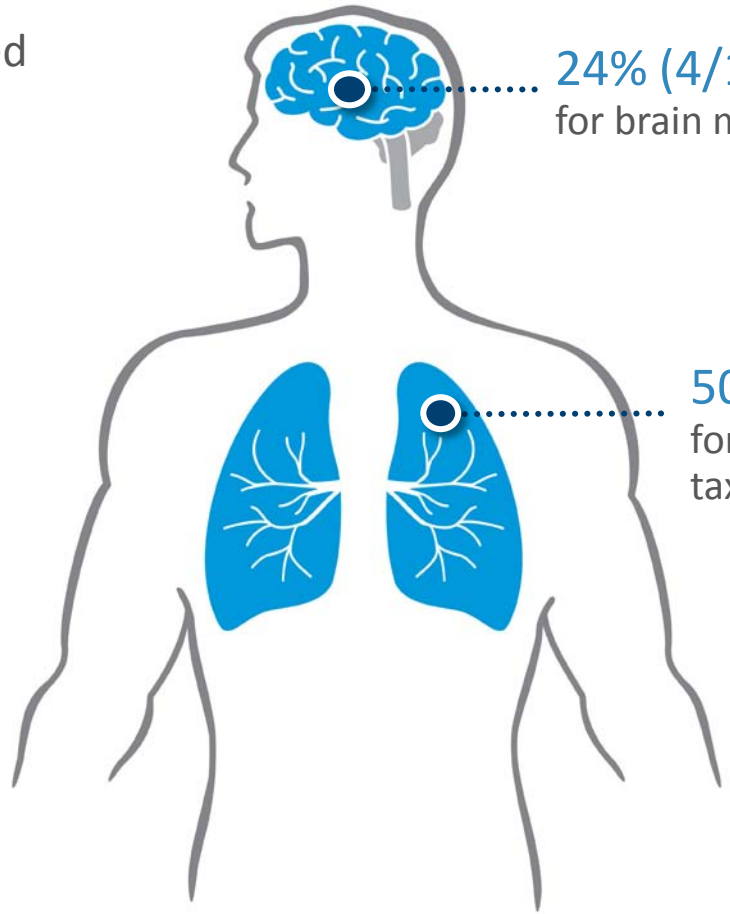


- GRN1005 is a peptide (Angiopep-2) – drug (Paclitaxel) conjugate
- LRP-1 transports many macromolecules across the BBB, including GRN1005
- GRN1005 enters tumor cells inside the brain,
  where free, active paclitaxel is released from the Angiopep-2 peptide
- LRP-1 also expressed on tumor cells outside the brain

GRN1005
phase 1 study

- No CNS toxicity observed
- Dose-limiting toxicities comparable in type to paclitaxel

20% (4/20) overall response rate
(intra- and extra-cranial)



24% (4/17) response rate
for brain metastases

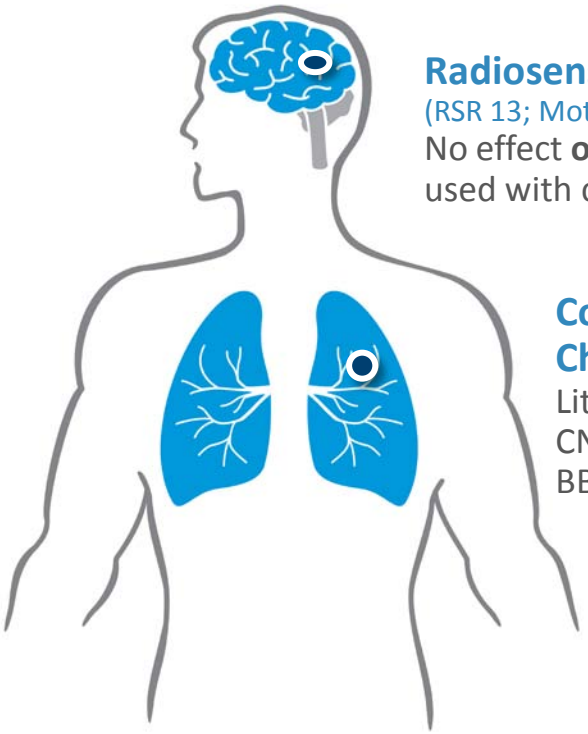
50% (5/10) response rate
for lung lesions despite prior taxane failure

GRN1005
unique quality

Anti-tumor activity both

inside and outside

the brain simultaneously

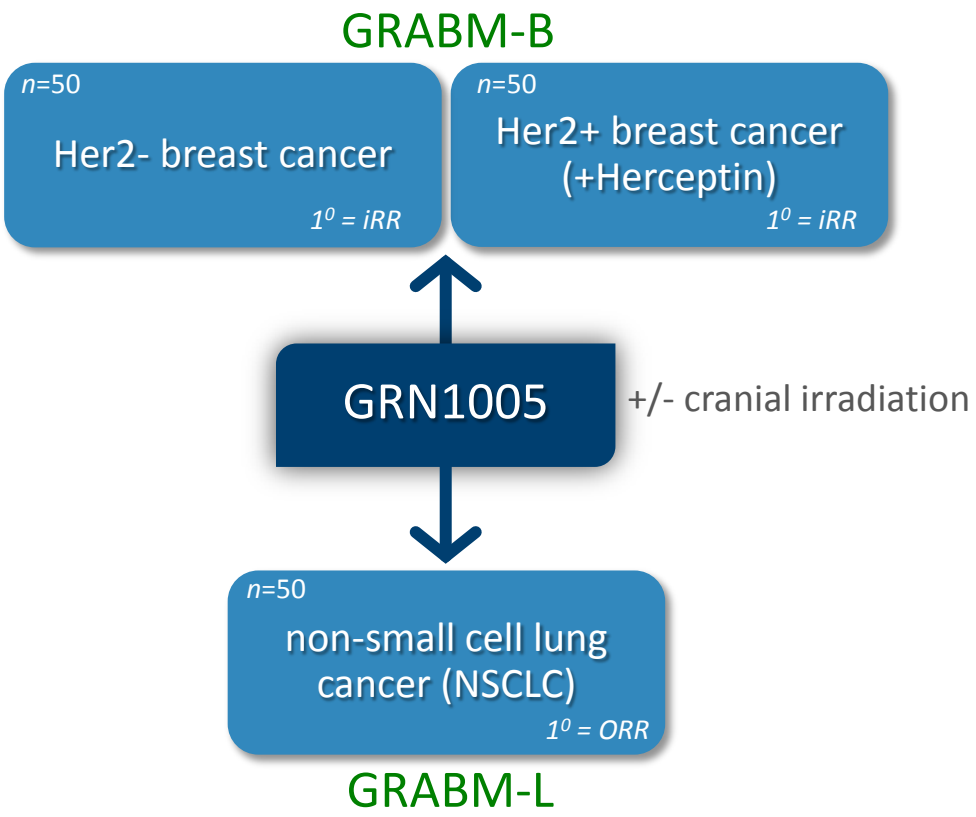


Radiosensitizers
(RSR 13; Motexafin Gadolinium)
No effect **outside** the CNS if used with cranial irradiation

Conventional Chemotherapy
Little effect **inside** the CNS (does not cross BBB)

GRN1005 phase 2 studies

in brain metastases



consolidation and salvage therapy

for brain metastases

Co-Administered with Cranial Irradiation

Recurrence after Cranial Irradiation

consolidation therapy

- **No approved drug therapies**
- Investigational Radiosensitizers not approved:
  - RSR13 (Allos)
  - Motexafin Gadolinium (Pharmacyclics)

salvage therapy

- **No approved drug therapies**
- Estimated average historical intracranial ORR = 4.7%*

*Geron internal data: Calculated from 7 published studies reporting intra-cranial ORR using a weighted average with weights proportional to the inverse of the estimated variance of the ORR estimates reported in the individual studies. For studies reporting an ORR estimate of 0% (which would yield zero variance estimates), an ORR of 2% was assumed for calculating the weight.

our clinical milestones

Product Candidate	Phase 1	Phase 2	Top-Line Results
IMETELSTAT			
Metastatic Breast Cancer			Q4 2012
Advanced Lung Cancer (NSCLC)			Q4 2012
Essential Thrombocythemia			Q4 2012
Multiple Myeloma			Q4 2012
GRN1005			
Brain Metastases (Breast Cancer)			Q2 2013
Brain Metastases (NSCLC)			Q2 2013

a strong business position

IP portfolio

- Broad and expanding protection
- U.S. patent protection for imetelstat until at least 2026
- U.S. patent protection for GRN1005 until at least 2025

Asset ownership

- Imetelstat is a proprietary compound, developed and owned by Geron
- GRN1005 was in-licensed from Angiochem on an exclusive worldwide basis with conventional milestone and royalty structure

Balance sheet

- Approximately $137 million in cash and investments as of March 31, 2012
- Runway through all Phase 2 milestones

geron

For further information, please contact:
Anna Krassowska PhD, Investor Relations
+1.650.566.7127 investor@geron.com