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): November 19, 2018

PIERIS PHARMACEUTICALS, INC.
(Exact Name of Registrant as Specified in its Charter)

Nevada	**001-37471**	**EIN 30-0784346**
(State of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

255 State Street, 9th Floor
Boston, MA 02109
United States
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: 857-246-8998

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))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2).

Emerging Growth Company ☒

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. ☐

Item 7.01: Regulation FD Disclosure.

Attached hereto as Exhibit 99.1 and incorporated by reference herein is the November 2018 Immuno-Oncology Presentation of Pieris Pharmaceuticals, Inc.

The information set forth under this “Item 7.01. Regulation FD Disclosure,” including the exhibit attached hereto, shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits

(d) *Exhibits.*

99.1 Immuno-Oncology Presentation, dated November 2018.

SIGNATURE

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.

PIERIS PHARMACEUTICALS, INC.

Dated: November 19, 2018

/s/ Allan Reine

Allan Reine

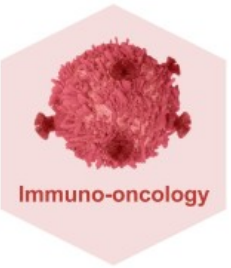
Chief Financial Officer

Pieris Pharmaceuticals Immuno-oncology Presentation

November 2018

Expanding the Playing Field for Therapeutic Proteins

- An industry-validated class of novel therapeutics
  - Anticalin® proteins
  - $120+M in upfront payments and milestones since January 2017
- Potentially transformative, wholly owned IO program
  - **PRS-343**, clinical-stage, tumor-targeted 4-1BB bispecific
- High-value, inhaled targeted respiratory program
  - **PRS-060**, clinical-stage inhaled IL-4Ra antagonist
  - partnered with AstraZeneca – retained co-dev/US comm rights
- All three anchor partnerships include US-focused commercialization rights
- Robust IND engine that has yielded several clinical-stage candidates with excellent drug-like properties



ANCHOR PARTNERSHIPS | SERVIER AstraZeneca SeattleGenetics

Diversified Pipeline with an IO and Respiratory Focus

IMMUNO-ONCOLOGY PROGRAMS

Program	Target	Indication	Discovery	Preclinical	Phase 1	Phase 2	Partner
PRS-343	HER2 / 4-1BB (Bispecific)	Immuno-oncology					
PRS-300s	n.d.	Immuno-oncology					
PRS-344*	PD-L1 / 4-1BB (Bispecific)	Immuno-oncology					SERVIER
PRS-332*	PD-1 / n.d. (Bispecific)	Immuno-oncology					SERVIER
Servier* *(3 Programs)*	n.d. / n.d. (Bispecific)	Immuno-oncology					SERVIER
Seattle Genetics* *(3 Programs)*	n.d. / n.d. (Bispecific)	Immuno-oncology					SeattleGenetics

RESPIRATORY PROGRAMS

Program	Target	Indication	Discovery	Preclinical	Phase 1	Phase 2	Partner
PRS-060*	IL4Ra	Asthma					AstraZeneca
AstraZeneca* *(4 Programs)*	n.d.	Respiratory Diseases					AstraZeneca
PRS-Respiratory	n.d.	Respiratory Diseases					

ANEMIA

Program	Target	Indication	Discovery	Preclinical	Phase 1	Phase 2	Partner
PRS-080*	Hepcidin	Anemia					ASKA Pharmaceutical

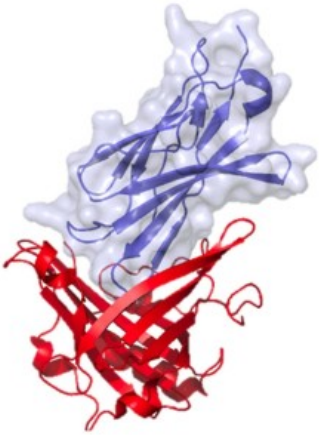
*Pieris retains an option for U.S. rights on PRS-344, PRS-332 and one additional Servier program and one Seattle Genetics program; U.S. co-commercialization on PRS-060 and two additional AstraZeneca programs; Major-markets (ex-Japan) on PRS-080

Anticalin Technology Background

Expanding the Playing Field for Therapeutic Proteins

Anticalin Proteins – A Novel Therapeutic Class with Favorable Drug Properties

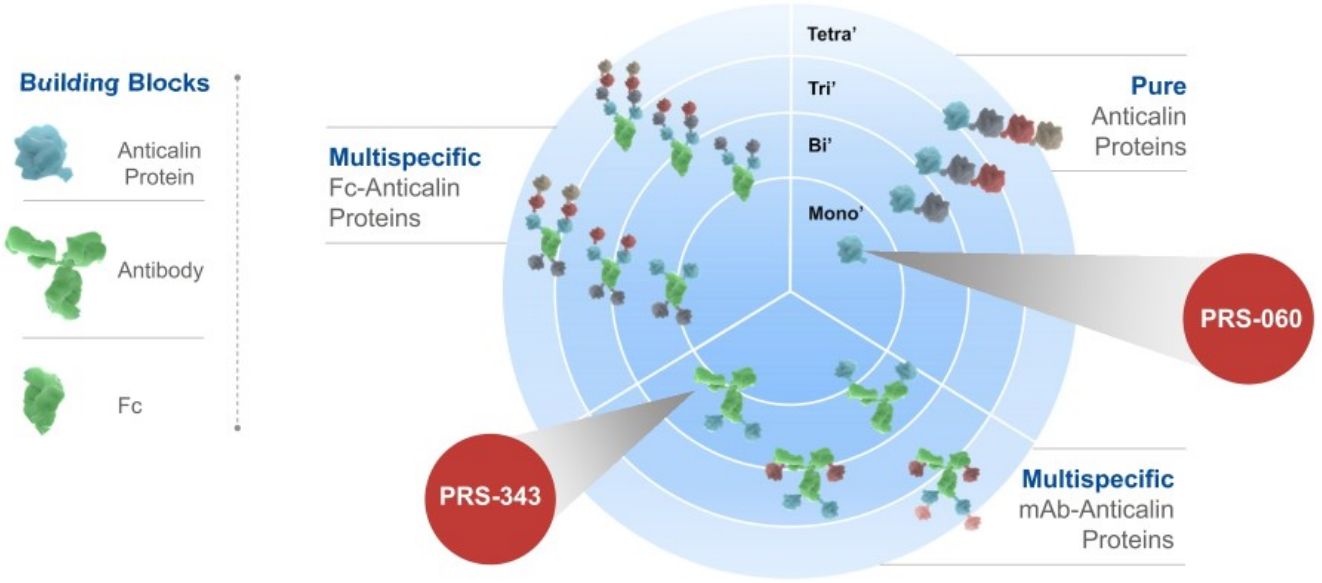
- Derived from lipocalins (human extracellular binding proteins)
  - multifunctional, non-immunogenic polypeptides
- Engineerable binding pocket for robust target engagement
- Small size (18 kDa vs 150kDa mAbs)
- Can be formulated for inhalable delivery
- Can be formatted into novel bi- and multi-specific constructs



Underpinned by a Powerful Drug Discovery Platform

- Highly diverse libraries (>10^{11}) of potential drug candidates
- Automated high-throughput drug screening technology (phage display)
  - High hit rates, quick to development candidates, versatile use
- Extensive protein engineering know-how

Anticalin Protein-based Drug Candidates can be Tailored to Multiple Formats



Potent Multi-target Engagement • Novel Inhaled and Multispecific MoA • Favorable Drug-like Properties

A Unique, Robust and Versatile Multispecific Platform

Favorable Drug Properties	• Ability to generate multispecific constructs with antibody-like biophysical properties • Anticalin proteins are based on stable human extracellular binding proteins
Versatile and Flexible Design	• Geometry and valency can be optimized to specific target combinations and desired MoA • Flexible bispecific design (bivalent or tetravalent target engagement for each target) • Bi-, tri- and tetravalent multispecific (targeting up to four different targets)
Platform Cell Line Development & Manufacturing Process	• High titers, up to 10 g/L, achieved for multiple Anticalin-antibody fusion proteins • Standard antibody upstream and downstream process

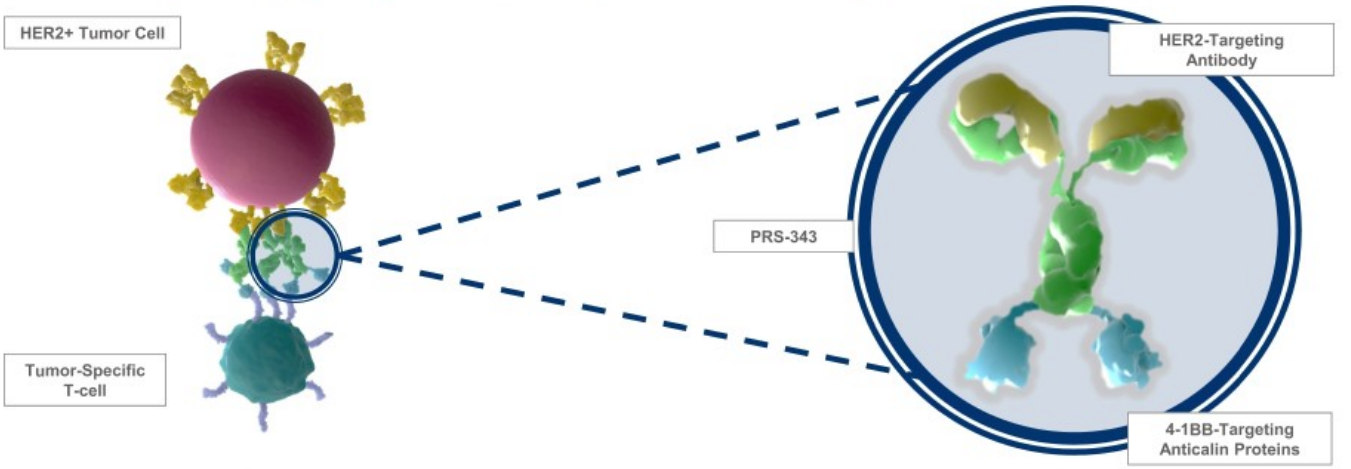
Anticalin Proteins in Immuno-Oncology

Tumor-Localized Immune Cell Activation

4-1BB (CD137): Validated Target in Need of Appropriate Drug

- Marker for tumor-specific T cells in TME
- Ameliorates T cell exhaustion & critical for T cell expansion
- Drives anti-tumor cytolytic activity
- Drives central memory T cell phenotype

Systemically agonizing 4-1BB mAb (urelumab) has shown clinical activity yet caused significant toxicity

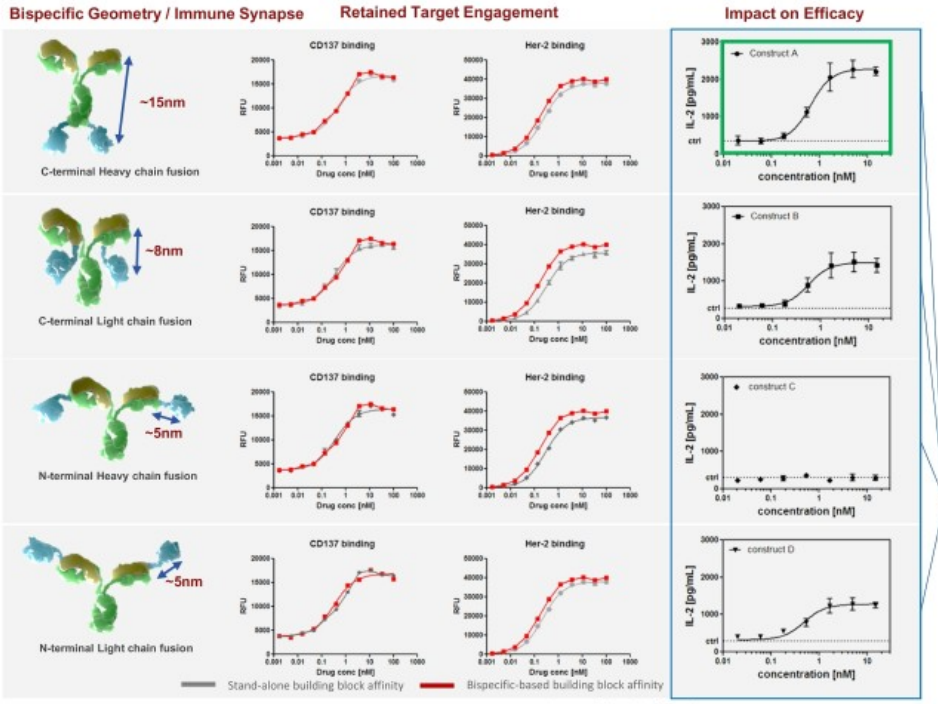


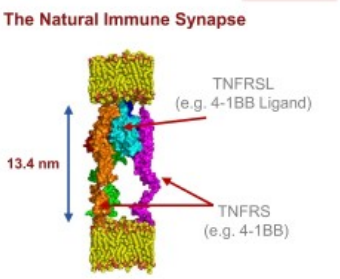
PRS-343 was designed for TME-specific 4-1BB activation*

*4-1BB *trimerization* required for activation

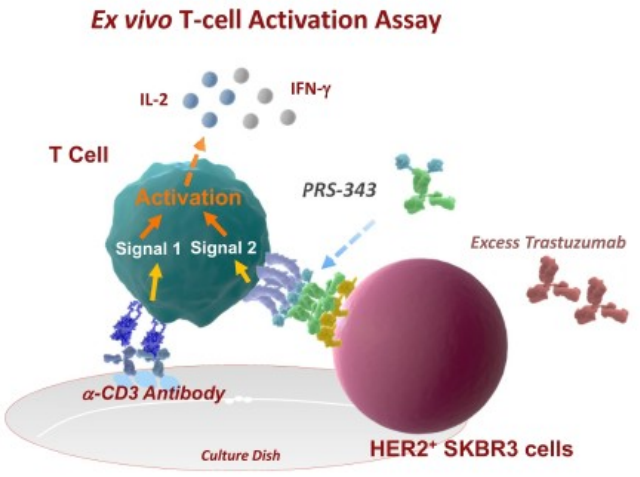
PRS-343, 4-1BB Bispecific Drug Candidate for HER2+ Solid Tumors

Bispecific Geometry Impacts Immune Synapse & Efficacy

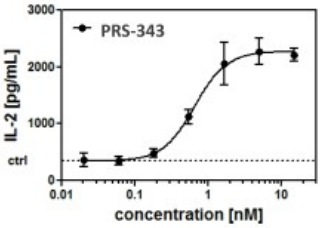




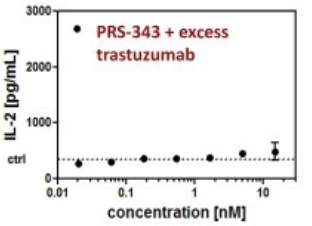
PRS-343 Leads to HER2-Dependent T-cell Costimulation



Cell activation = IL-2 response

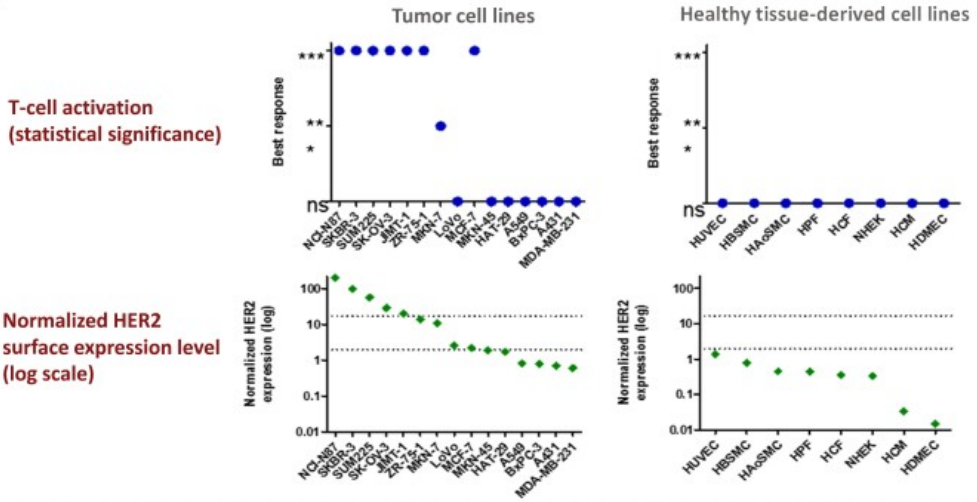


IL-2 response with Her2 blockade



PRS-343-induced T-cell Activation Correlates with HER2 Expression Leve

Costimulatory T-cell activation was evaluated using PRS-343 for a series of tumor cell lines and primary cells covering a wide range of HER2 positivity

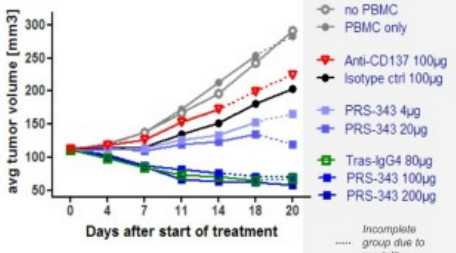


- Notably, costimulatory activity was observed in cell lines (SUM225 and JIMT-1) described as resistant to conventional HER2-targeted therapy
- Mode of action supports anticipated low toxicity against healthy tissue

PRS-343 Shows Bifunctional Activity – Dose-dependent Tumor Growth Inhibition and CD8(+)TIL Expansion in HER2+ Ovarian Cancer Model

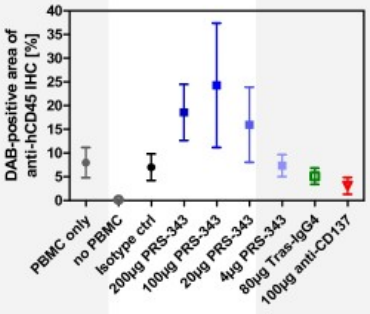
- PRS-343 shows dose-dependent tumor growth inhibition, which is dominated by anti-HER2 activity
- PRS-343 leads to strong and dose-dependent lymphocyte infiltration in tumors; monospecific anti-HER2 mAb (IgG4 backbone) lacks this activity
- Monospecific anti-4-1BB benchmark mAb shows insignificant response compared to isotype control and no significant tumor infiltration of lymphocytes

Tumor growth (Median)

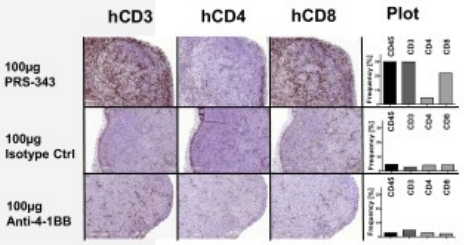


SK-OV-3 tumor model

TIL frequency (hCD45)



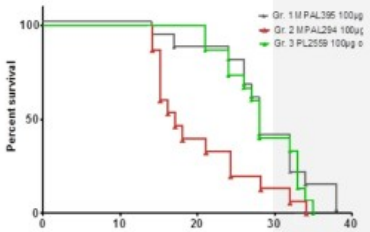
TIL phenotyping by IHC



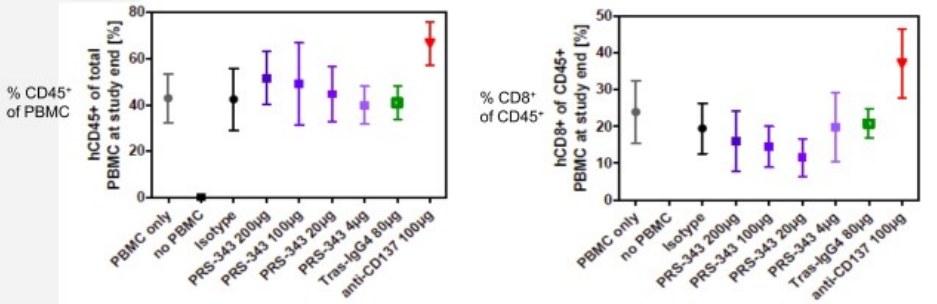
PRS-343 Avoids Unwanted Effect of Peripheral T-Cell Activation, Unlike Systemic 4-1BB Agonist Antibody

- Unlike PRS-343, anti-4-1BB benchmark mAb shows accelerated graft-versus-host-disease with significant mortality in line with literature data[1]
- Toxicity observed with mAb likely corresponds to indiscriminate peripheral T cell activation

Survival

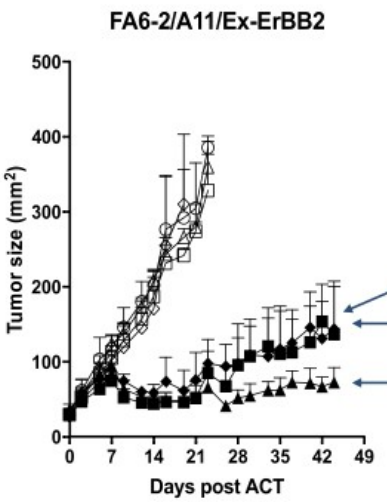


PBMC phenotyping at day 19



[1]Sanmamed et al., Cancer Res. 2015 Sep 1;75(17):3466-78.

PRS-343 Mediates 4-1BB-Based Anti-tumor Activity and Enhanced Tumor Growth Inhibition in Adoptive T Cell Transfer Model



Testing effect of PRS-343 mediated tumor targeted 4-1BB costimulation in adoptive T cell transfer model*

- Tumor-specific human T cells generated by transduction with TCR specific for mutant KRAS/HLA-A*11:01 (anti-KRAS G12D TCR)
- Immune-deficient mice implanted with HER2+ KRAS mutant human tumor and then treated with G12D tumor-specific human T cells
- Impact on tumor growth of PRS-343 therapy in combination with tumor-targeted T cells

*Model described in Wang et al., Cancer Immunol Res. 2016 Mar;4(3):204-14

Anti-KRAS G12D TCR + Tras IgG4 control

Anti-KRAS G12D TCR alone

Anti-KRAS G12D TCR + PRS-343 (P=0.028 versus T cells alone)

- The KRAS tumor cell line used in this model has been transfected with truncated HER2 to enable binding of PRS-343 but avoiding anti-HER2-signaling mediated anti-tumor activity.
- No anti-tumor effect of PRS-343 was observed In a parallel study using non-HER2 transfected KRAS mutant tumor cells, confirming PRS-343's HER2+ tumor targeted MoA.

PRS-343 Phase I Escalation and Expansion Trials

ESCALATION

HER2+ all-comers to efficiently interrogate therapeutic window during escalation

- First patient dosed September 2017
- Treating patients with HER2+ solid tumors
- Dose-escalation trial with 11 cohorts ongoing
- Initial PK, safety, tolerability and biomarker data by year end of 2018
- First patient dosed in combination with atezolizumab (Tecentriq®) in August 2018 (drug supply agreement with Roche)

EXPANSION

- Bladder
- Gastric
- Other(s)

START Center for Cancer Care · MD Anderson Cancer Center · SARAH CANNON Fighting Cancer Together · Memorial Sloan Kettering Cancer Center · next · UCLA · JOHNS HOPKINS MEDICINE · UPMC HILLMAN CANCER CENTER · Georgetown University

PRS-344 (PD-L1/4-1BB)

Simultaneous Costimulatory T-cell Engagement and Checkpoint Inhibition

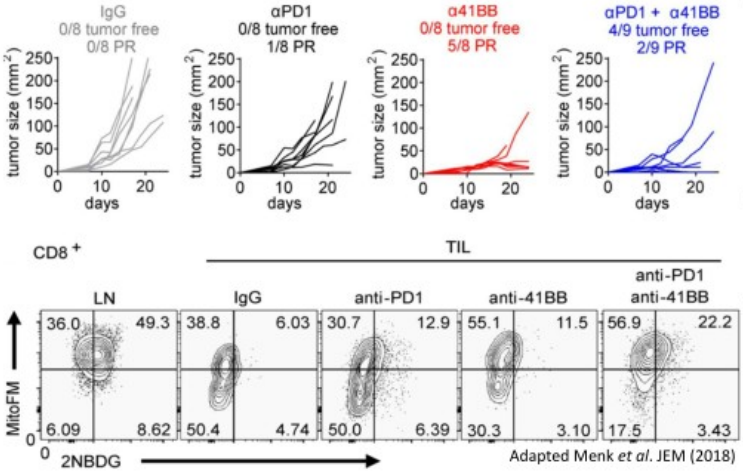
PRS-344: PD-L1/4-1BB Antibody-Anticalin Bispecific

- Combining the benefits of tumor-localized 4-1BB agonism with PD-L1 blockade
- Pan-tumor opportunity
- Partnered with Servier
- Publications support preclinical rationale of the combination as evidenced below:

Synergistic Response of PD-1+4-1BB Combination Demonstrated In Preclinical Models

PD-L1 Targeted Antibody

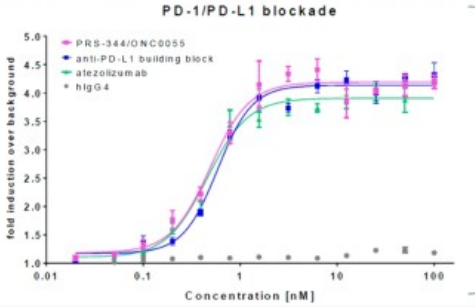
4-1BB-Targeting Anticalin Proteins



PD-1+4-1BB combo demonstrates robust preclinical anti-tumor activity

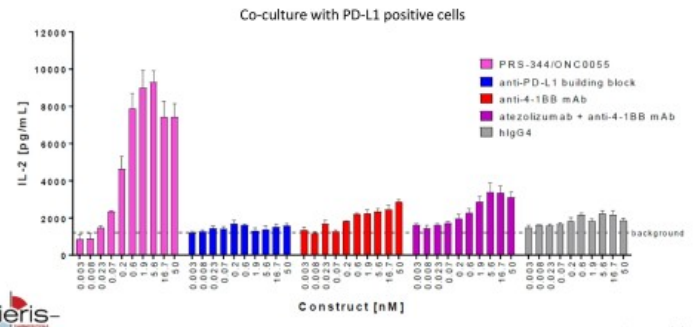
4-1BB agonism enhances mitochondrial function in T cells

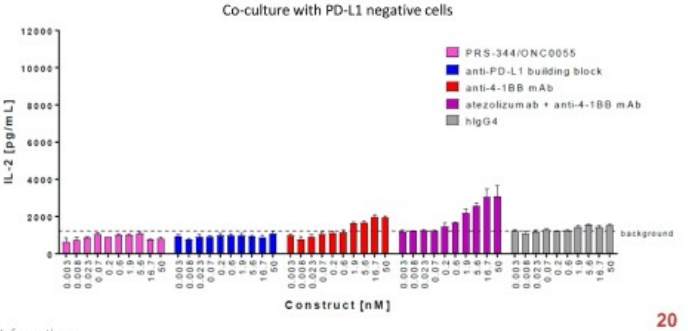
PRS-344: Localized, Simultaneous Costimulatory T-cell Engagement and Checkpoint Inhibition to Provide Synergistic Efficacy With Favorable Therapeutic Window



PRS-344 drives checkpoint blockade activity similar to anti-PD-L1 antibody building block and benchmark

PRS-344-mediated costimulation is strictly PD-L1 dependent, reducing the risk of peripheral toxicity





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