Cabaletta Bio®

RESET-PV: Initial clinical and translational data evaluating rese-cel (resecabtagene autoleucel), an autologous 4-1BB CD19-CAR T cell therapy, without preconditioning, in pemphigus vulgaris

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RESET-PV™

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("we," "us," "our," "Cabaletta" or the "Company") and may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 relating to our business, operations, and financial conditions, and include, but are not limited to, express or implied statements regarding our current beliefs, expectations and assumptions regarding: our business, future plans and strategies for our technology; our ability to grow our autoimmune-focused pipeline; the ability to capitalize on and potential benefits resulting from our research and translational insights, including those related to any similarly-designed constructs or dosing regimens; the anticipated market opportunities for rese-cel in patients with autoimmune diseases; the Company's business plans and objectives; our expectations around the potential success and therapeutic and clinical benefits of rese-cel, as well as our ability to successfully complete research and further development and commercialization of our drug candidates in current or future indications, including the timing and results of our clinical trials and our ability to conduct and complete clinical trials; expectation that clinical results will support rese-cel's safety and activity profile; our plan to leverage increasing clinical data and a unique development program for rese-cel; the timing, clinical significance and impact of clinical data read-outs, including the progress, results and clinical data from each of the patients dosed with rese-cel in the Phase 1/2 RESET-Myositis, RESET-SLE, RESET-SSc, RESET-MG and RESET-PV trials and our other planned activities with respect to rese-cel; our belief that rese-cel has the potential to provide drug-free, durable transformative clinical responses, through an immune reset; the Company's advancement of separate Phase 1/2 clinical trials of rese-cel and advancement of the RESET-PV and RESET-MS trials, with and without preconditioning, as applicable, including updates related to status, safety data, efficiency of clinical trial design and timing of data read-outs or otherwise; our ability to leverage our experience in autoimmune cell therapy; our ability to enroll the requisite number of patients, dose each dosing cohort in the intended manner and timing thereof, and advance the trial as planned in our Phase 1/2 clinical trials of rese-cel; the timing any planned regulatory filings for our development programs, including IND applications and interactions with regulatory authorities, including such authorities' review of safety information from our ongoing clinical trials and alignment with regulatory agencies on potential registrational pathway for rese-cel in various indications, and the timing of alignment of trial design related thereto; our ability to successfully complete our preclinical and clinical studies for our product candidates, including our ability to progress the trial; our plans and expectations regarding automated scalable manufacturing and no preconditioning and its potential to expand and accelerate access; our expectations that automation and elimination of preconditioning and apheresis will enhance patient experience; our expectation and timing for clinical manufacturing data with Cellares' automated manufacturing process and its ability to confirm GMP readiness, including supply chain logistics; our ability to increase enrollment from our rapidly expanding clinical network in the RESET clinical trial program in the US and Europe; our ability to obtain and maintain regulatory approval of our product candidates, including our expectations regarding the intended incentives conferred by and ability to retain regulatory designations and the anticipated initiation of registrational cohorts and potential BLA submission; our expectation and timing for completion of dosing of most disease-specific cohorts; our belief regarding alignment with FDA on registrational trial design and timing thereof; our expectations regarding opportunities based on market research; our ability to accelerate our pipeline to approval and launch and to develop transformative therapies for patients, including in collaboration with academic and industry partners and the ability to optimize such collaborations on, including timing thereof, our development programs; our ability to contract with third-party suppliers and manufacturers; our ability to execute our manufacturing strategy to enable expansion of clinical supply and efficiently scale commercial supply for rese-cel; our potential commercial opportunities, including value and addressable market, for our product candidates. Words such as, but not limited to, "look forward to," "believe," "expect," "anticipate," "estimate," "intend," "plan," "would," "should" and "could," and similar expressions or words, identify forward-looking statements.

Various risks, uncertainties and assumptions could cause actual results to differ materially from those anticipated or implied in our forward-looking statements. Such risks and uncertainties include, but are not limited to, risks related to the success, cost, and timing of our development activities and clinical trials, risks related to our ability to demonstrate sufficient evidence of safety, efficacy and tolerability in our clinical trials, the risk that the results observed with the similarly-designed construct, including, but not limited to, dosing regimen, are not indicative of the results we seek to achieve with rese-cel, the risk that signs of biologic activity or persistence may not inform long-term results, risks related to clinical trial site activation or enrollment rates that are lower than expected, risks that modifications to trial design or approach may not have the intended benefits and that the trial design may need to be further modified; our ability to protect and maintain our intellectual property position, risks related to our relationships with third parties, uncertainties related to regulatory agencies' evaluation of regulatory filings and other information related to our product candidates, our ability to retain and recognize the intended incentives conferred by any regulatory designations, risks related to regulatory filings and potential clearance, the risk that any one or more of our product candidates will not be successfully developed and commercialized, the risk that the results of preclinical studies or clinical studies will not be predictive of future results in connection with future studies, risks related to volatile market and economic conditions and our ability to fund operations and continue as a going concern. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. Although we believe the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. Accordingly, you are cautioned not to place undue reliance on these forward-looking statements. No representations or warranties (expressed or implied) are made about the accuracy of any such forward-looking statements. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause our actual results to differ materially from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent annual report on Form 10-K and quarterly report on Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our other filings with the Securities and Exchange Commission. Certain information contained in this Presentation relates to or is based on studies, publications, surveys and other data obtained from third-party sources and the Company's own internal estimates and research. While the Company believes these third-party sources to be reliable as of the date of this Presentation, it has not independently verified, and makes no representation as to the adequacy, fairness, accuracy or completeness of, any information obtained from third-party sources. The Company is the owner of various trademarks, trade names and service marks. Certain other trademarks, trade names and service marks appearing in this Presentation are the property of third parties. Solely for convenience, the trademarks and trade names in this Presentation are referred to without the ® and TM symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

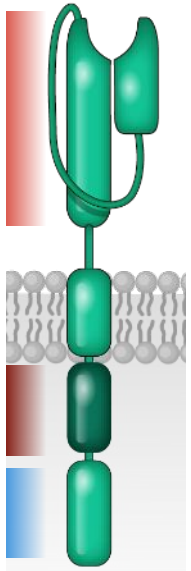
Rese-cel: CD19-CAR T designed for autoimmunity

Rese-cel binder with similar in vitro & in vivo activity to construct used in academic studies in autoimmunity[1,3]

Fully human anti-CD19 binder

4-1BB costimulatory domain

CD3-ζ signaling domain



Rese-cel
4

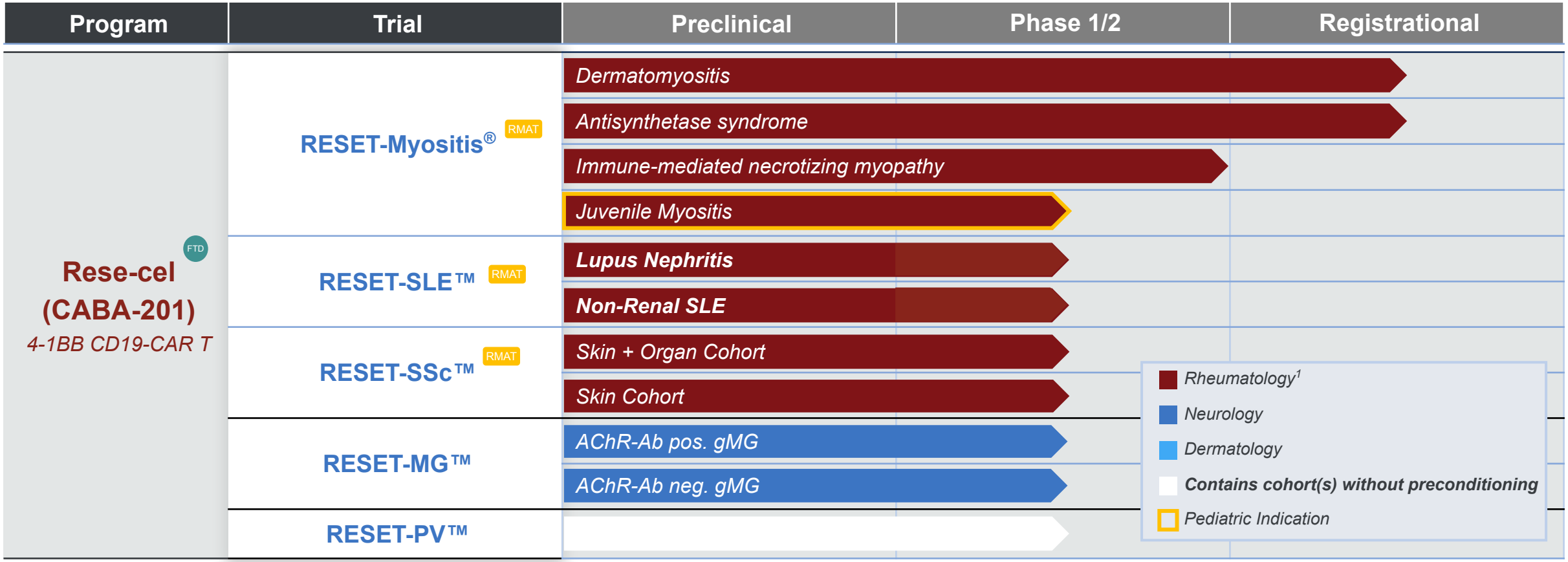
Rese-cel product design & clinical / translational data

- 4-1BB costimulatory domain with fully human binder
  - Binder with similar affinity & biologic activity to academic FMC63 binder while binding to the same epitopes[1,2]
- Same weight-based dose as in academic studies
  - Potential to provide immune reset based on initial clinical and translational data[5]
- Patients treated with rese-cel have shown compelling clinical responses with safety data that supports autoimmune development[6]

1. Peng BJ, et al. Mol Ther Methods Clin Dev. 2024;32(2):101267.
2. Dai, Zhenyu, et al. "Development and functional characterization of novel fully human anti-CD19 chimeric antigen receptors for T-cell therapy." Journal of Cellular Physiology 236.8 (2021): 5832-5847.
3. Müller, Fabian, et al. "CD19 CAR T-Cell Therapy in Autoimmune Disease—A Case Series with Follow-up." New England Journal of Medicine 390.8 (2024): 687-700.
4. Maschan, Michael, et al. "Multiple site place-of-care manufactured anti-CD19 CAR-T cells induce high remission rates in B-cell malignancy patients." Nature Communications 12, 7200 (2021). Transmembrane domain in rese-cel is CD8α vs. TNFRSF19 (Troy) utilized in the academic construct. The two transmembrane domains have not been shown to have a significant difference in function or IFN-γ production in preclinical studies. The CD8α transmembrane domain is employed in tisagenlecleucel.
5. Volkov, Jenell, et al. "Case study of CD19 CAR T therapy in a subject with immune-mediate necrotizing myopathy treated in the RESET-Myositis phase I/II trial." Molecular Therapy 32.11 (2024): 3821-3828.
6. Abstract 1733: Safety and Efficacy of CABA-201, a Fully Human, Autologous 4-1BB Anti-CD19 CAR T Cell Therapy in Patients with Immune-Mediated Necrotizing Myopathy and Systemic Lupus Erythematosus from the RESET-Myositis™ and RESET-SLE™ Clinical Trials. ACR 2024.

Innovative clinical strategy to support accelerated regulatory path

FDA aligned on myositis and SLE registrational designs; SSc and MG alignment anticipated in 1H26



RESET™ – **RE**storing **SE**lf-**T**olerance; Ab – Antibody; AChR – Acetylcholine receptor; gMG – Generalized myasthenia gravis; PV – Pemphigus vulgaris; SLE – Systemic lupus erythematosus; SSc – Systemic sclerosis

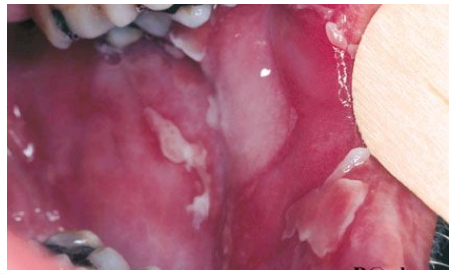
1. Myositis patients can also be treated by neurologists or dermatologists; lupus nephritis patients can also be treated by nephrologists.

● FDA Fast Track Designation received in dermatomyositis, SLE and lupus nephritis, systemic sclerosis, generalized myasthenia gravis and multiple sclerosis.

■ FDA Regenerative Medicine Advanced Therapy (RMAT) received in myositis, SLE, LN and systemic sclerosis.

Overview of pemphigus vulgaris & current treatment landscape

Pemphigus vulgaris is a B cell driven disease with high unmet need

	Mucosal PV[1] (25%)	Mucocutaneous PV[2] (75%)
		
Associated Antibody	**Anti-DSG3**	**Anti-DSG3 + Anti-DSG1**
Clinical Signs	Painful blisters of the orifices including mucous membranes (mouth, nose, larynx, esophagus, eyes, genitalia, rectum)	Blisters on orifices and skin

Reported mortality rates for pemphigus patients are higher than rates for non-pemphigus individuals, ranging from 4.8% (over a 2-year period) to 25.9% (over a 9-year period)[3,4]

Broad immunosuppression[5,8]

Modestly effective & poorly tolerated

Rituximab plus steroids (cumulative GC dose of ~3,500 mg/yr)[6]

Yielded sustained complete remission in 40% of patients in a 52-week trial[6]

Transient remission

- In a retrospective cohort study, 70% of patients receiving rituximab achieved complete remission off therapy (CROT*) after median follow up of 10.5 months[8]
- 50% relapsed after a median of 23 months due to incomplete B cell depletion[8]

Safety risks

- 22% annual serious adverse event (SAE) rate[6]
- Up to 9%[5,6,7] annual risk of severe infection in PV
- ~1.9% lifetime risk of fatal infection[9]

**CROT = 8+ weeks without lesions while off systemic and topical therapy*

1. Image credit: D@nderm;
2. http://www.vgrd.org/archive/cases/2004/pv/DSCN4996%20copy.JPG
3. Silverberg, et al. JAAD Sept 2022 Volume 87, Issue 3, Supplement
4. Hsu DY, et al. Br J Dermatol. February 2016
5. Joly, Pascal, et al. "First-line rituximab combined with short-term prednisone versus prednisone alone for the treatment of pemphigus (Ritux 3): a prospective, multicentre, parallel-group, open-label randomised trial." The Lancet 389.10083 (2017): 2031-2040.
6. Werth, Victoria P., et al. "Rituximab versus Mycophenolate Mofetil in Patients with Pemphigus Vulgaris." New England Journal of Medicine (2021).
7. Rituximab label, 08/2020 revision.
8. Kushner, Carolyn J., et al. "Factors Associated With Complete Remission After Rituximab Therapy for Pemphigus." JAMA dermatology (2019).
9. Tony, Hans-Peter, et al. "Safety and clinical outcomes of rituximab therapy in patients with different autoimmune diseases: experience from a national registry (GRAID)." Arthritis research & therapy 13.3 (2011): 1-14.

CROT, complete remission off therapy; DSG1, desmoglein 1; DSG3, desmoglein 3; GC, glucocorticoid; PV, pemphigus vulgaris.

RESET-PV™ phase 1/2 trial: key inclusion & exclusion criteria[1]

Designed to evaluate the safety and tolerability of rese-cel in PV subjects with active, refractory disease

Key inclusion criteria

- Age ≥ 18
- Confirmed diagnosis of PV by prior or screening biopsy and prior DSG3 antibody positive (reconfirmed during screening)
- PV inadequately managed by at least one standard immunomodulatory therapy
- Active PV at screening

Key exclusion criteria

- Have paraneoplastic pemphigus or active malignancy (not including non-melanoma skin cancer)
- Have received rituximab or other anti-CD20 or anti-CD19 therapies in last 12 months unless anti-DSG3 antibody titers have recently increased or PV symptoms have recently worsened
- Prednisone > 0.25mg/kg/day
- Other autoimmune disorder requiring immunomodulatory therapies

As of 11 September 2025. DSG3, desmoglein 3; PV, pemphigus vulgaris; RESET™, REstoring SElf-Tolerance.

1. Cabaletta Bio: Data on file

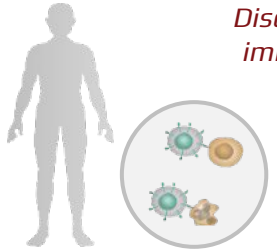
RESET-PV™ clinical trial

RESET-PV™ is evaluating an initial dose of 1 x 10^6 cells/kg, identical to the dose across other RESET™ trials, but without PC

Screening

Day 1

Leukapheresis and rese-cel production



T cells isolated from patient's own PBMCs (autologous CAR T)

Discontinuation of all immunomodulatory agents

Single infusion of rese-cel

Weight-based dosing[1] 1×10^6 cells/kg

Day 29

Primary endpoint: Incidence and severity of AEs

Study follow-up through Year 3*

Additional Endpoints

- Clinical efficacy measuring:
  - Drug-free responses
  - Validated study-specific endpoints
- PK/PD analysis:
  - Rese-cel expansion
  - B cell depletion
  - B cell repopulation
- Adverse events & safety
- Biomarker analysis, including autoantibody levels

*Follow up period encompasses 15 years in total, aligned to regulatory guidance for CAR T cell therapies.
AE, adverse event; PBMC, peripheral blood mononuclear cell; PC, preconditioning; PD, pharmacodynamics; PK, pharmacokinetics; PV, pemphigus vulgaris; RESET™, REstoring SElf-Tolerance.
1. Initial weight-based dose level.
Cabaletta Bio: Data on file.

Baseline characteristics of first 3 patients in RESET-PV™

All patients had moderate to severe active, refractory disease and had failed B cell-targeting therapies, including RTX

	RESET-PV™		
Patient	**PV-1M-1**	**PV-1M-2**	**PV-1M-3**
Age, sex	48, M	64, M	53, F
PV type	Mucosal	Mucocutaneous	Mucosal with minor skin involvement
Disease duration (approx. years)	7	3	8
Autoantibodies	DSG3	DSG3, DSG1	DSG3, DSG1
Baseline* PDAI Total	**24**	**95**	**23**
Baseline* PDAI Skin Activity	0	44	1
Baseline* PDAI Scalp Activity	0	4	0
Baseline* PDAI Mucous Membrane Activity	24	35	21
Baseline* PDAI Damage (Skin + Scalp)	0	12	1
Systemic therapies at screening	None	MMF	None
Other prior therapies	**RTX**[1], MMF, MTX, GC	GC, IVIg, **RTX**[1], MMF	**RTX**[1], MMF, IVIg
GC dose at screening (mg/day)	None	None[2]	None[3]

As of 11 September 2025. Cabaletta Bio: Data on file.
1M, 1 million CAR T cells/kg; DSG1, desmoglein 1; DSG3, desmoglein 3; GC, glucocorticoid; IVIg, intravenous immunoglobulin; MMF, mycophenolate mofetil; MTX, methotrexate; PDAI, Pemphigus Disease Area Index; PV, pemphigus vulgaris; RESET, REstoring SElf-Tolerance; RTX, rituximab.
*Baseline disease scores at pre-infusion visit
1. RTX last received ~13 months (PV-1M-1), ~29 months (PV-1M-2), and >6 years (PV-1M-3) prior to infusion
2. Prednisone 20 mg/day at Baseline
3. Prednisone 10 mg/day at Baseline

Incidence of relevant and related serious of adverse events*

	RESET-PV™		
Patient	**PV-1M-1**	**PV-1M-2**	**PV-1M-3**
Latest follow up	Week 16	Week 12	Day 29
CRS**	Grade 1	None	None
ICANS**	None	None	None
Serious infections‡	None	None	None
Related SAEs (Grade)§ (excluding CRS and ICANS)	None	None	None

*As of 11 September 2025. Cabaletta Bio: Data on file.
Primary endpoint is incidence and severity of adverse events through Day 29.
**Graded per ASTCT Consensus Grading Criteria.
‡Coded in System Organ Class of Infections and Infestations and meets seriousness criteria.
§As assessed per FDA guidelines.
1M, 1 million CAR T cells/kg; ASTCT, American Society for Transplantation and Cellular Therapy; CRS, cytokine release syndrome; ICANS, immune effector cell-associated neurotoxicity syndrome; PV, pemphigus vulgaris; RESET, REstoring SElf-Tolerance, SAE, serious adverse event.

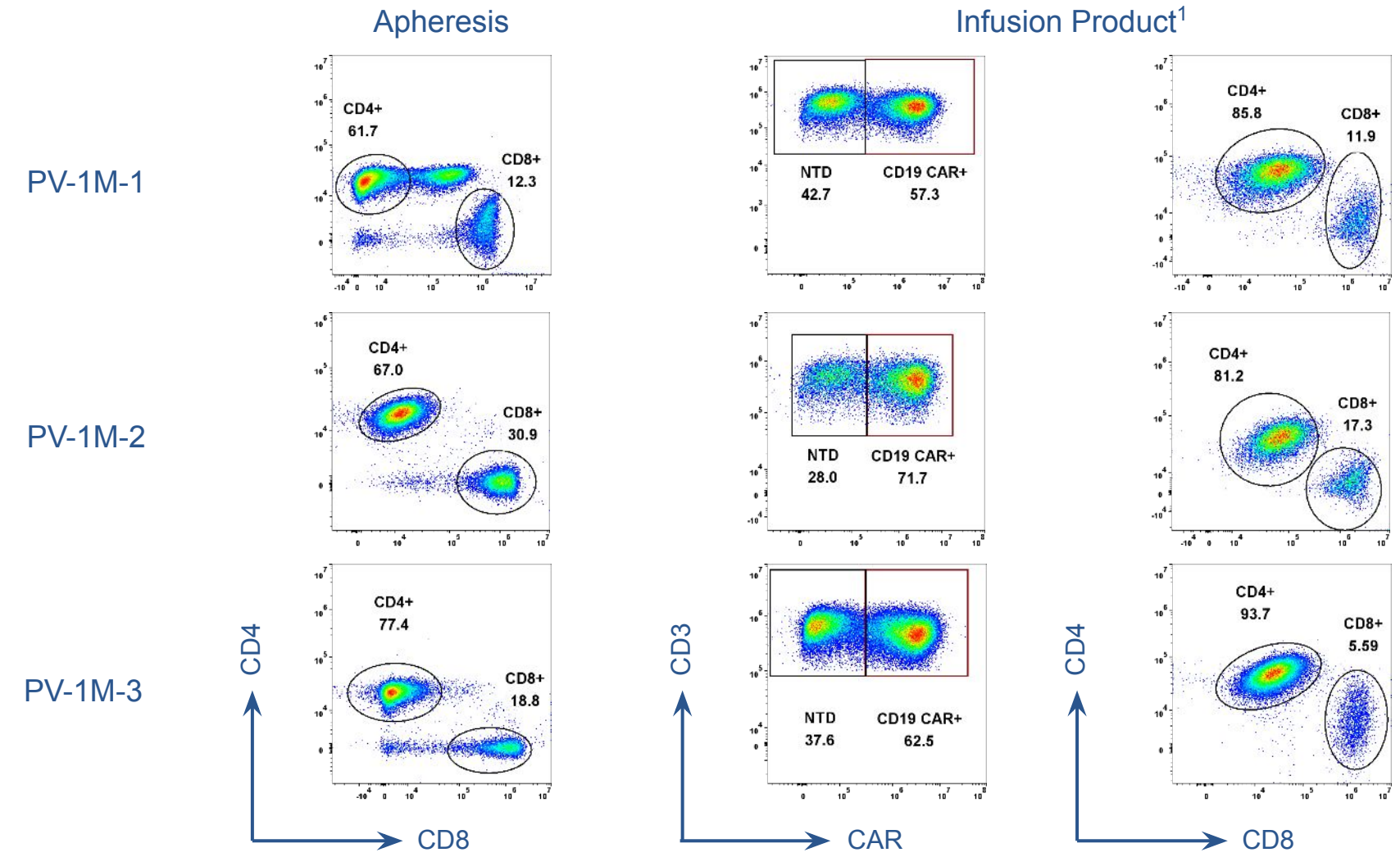
Incidence of relevant and related serious of adverse events*

	RESET-PV™ without preconditioning			Non-PV RESET™ Trials with PC^ n/N (%)
Patient	**PV-1M-1**	**PV-1M-2**	**PV-1M-3**	
Latest follow up	Week 16	Week 12	Day 29	Safety summary through first 29 Days
CRS**	Grade 1	None	None	11 / 32 (34%)
ICANS**	None	None	None	2 / 32 (6%)
Serious infections‡	None	None	None	0 / 32 (0%)
Related SAEs (Grade)§ (excluding CRS and ICANS)	None	None	None	5 / 32 (16%)#

*As of 11 September 2025. Cabaletta Bio: Data on file.
Primary endpoint is incidence and severity of adverse events through Day 29.
**Graded per ASTCT Consensus Grading Criteria.
‡Coded in System Organ Class of Infections and Infestations and meets seriousness criteria.
§As assessed per FDA guidelines.
#Events include fever (Grade 1), febrile neutropenia (Grade 1 & 2), pancytopenia (Grade 4), encephalopathy (Grade 4)¶, respiratory failure (Grade 4)¶, physical deconditioning (Grade 3), and anorexia (Grade 3). All SAEs were transient with no sequelae.
¶One patient experienced encephalopathy and respiratory failure, which was confounded by the patent's use of several sedating medications and concurrent medical conditions.
^Non-PV RESET™ Trials include RESET-Myositis™, RESET-SLE™, RESET-SSc™, and RESET-MG™ which all include preconditioning lymphodepletion with rese-cel infusion.
1M, 1 million CAR T cells / kg; ASTCT, American Society for Transplantation and Cellular Therapy; CRS, cytokine release syndrome; ICANS, immune effector cell-associated neurotoxicity syndrome; PV, pemphigus vulgaris; RESET, REstoring SElf-Tolerance; SAE, serious adverse event.

Rese-cel is a CD4+ dominant CAR T infusion product

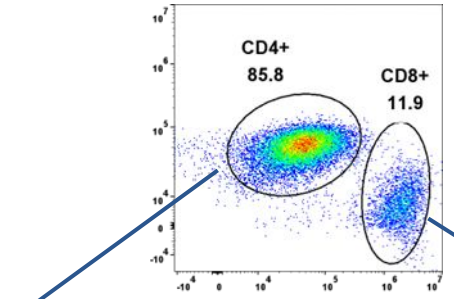
Apheresis is CD4+ dominant



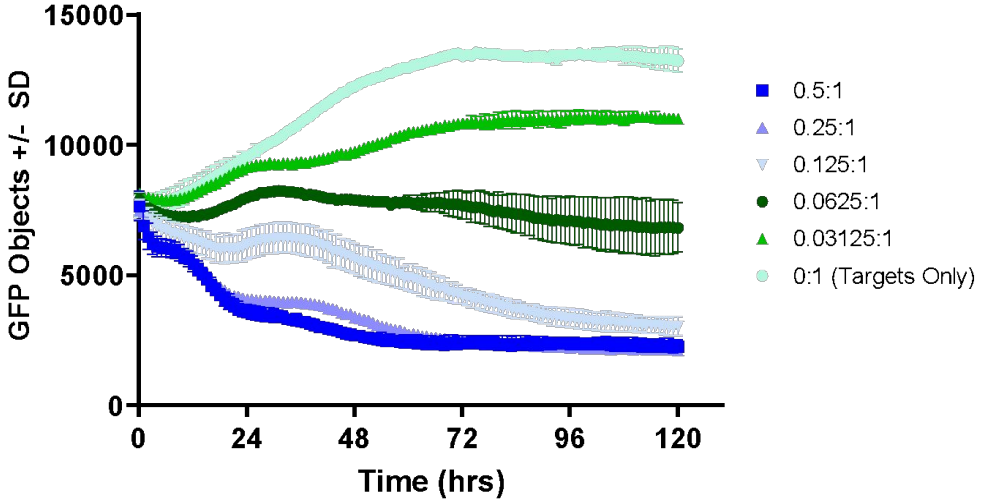
As of 11 September 2025. Cabaletta Bio: Data on file. 1M, 1 million CAR T cells / kg; CAR, chimeric antigen receptor; NTD, non-transduced; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel. 1. CD4 / CD8 breakdown in infusion product is of CAR+ T cells.

Rese-cel CD4$^+$ and CD8$^+$ T cells exhibit *in vitro* lysis

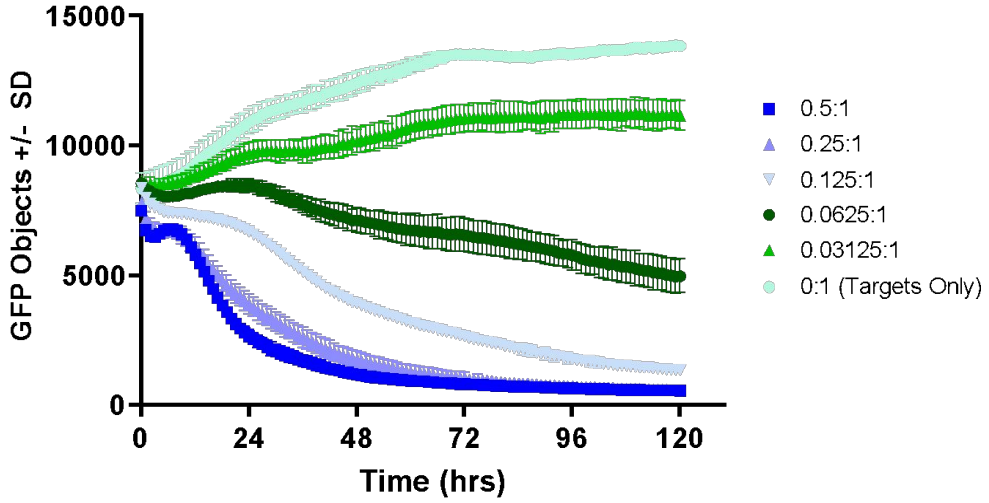
PV-1M-1 infusion product sorted CD4$^+$ and CD8$^+$ CAR T cells have similar cytolytic capacity



CAR$^+$ CD4$^+$



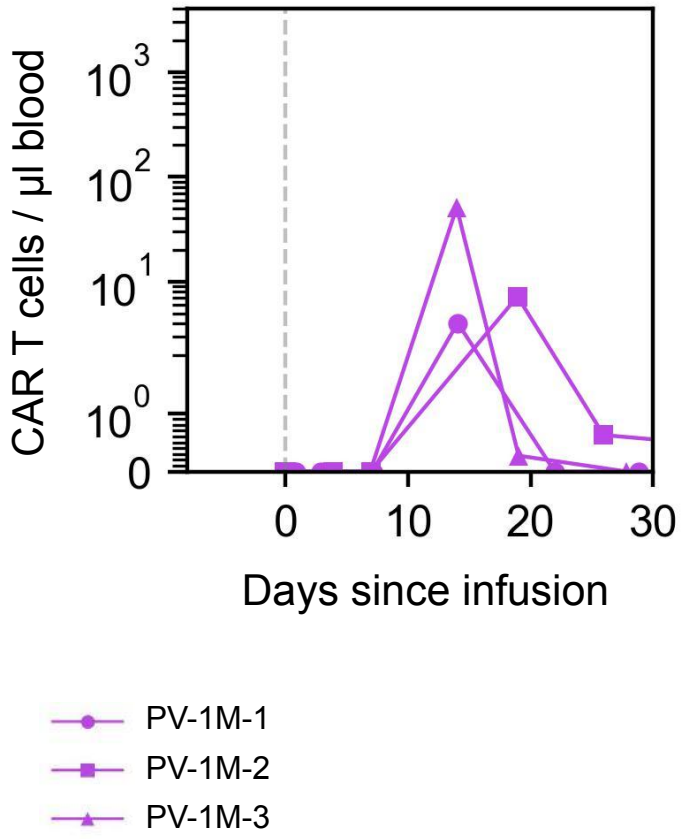
CAR$^+$ CD8$^+$

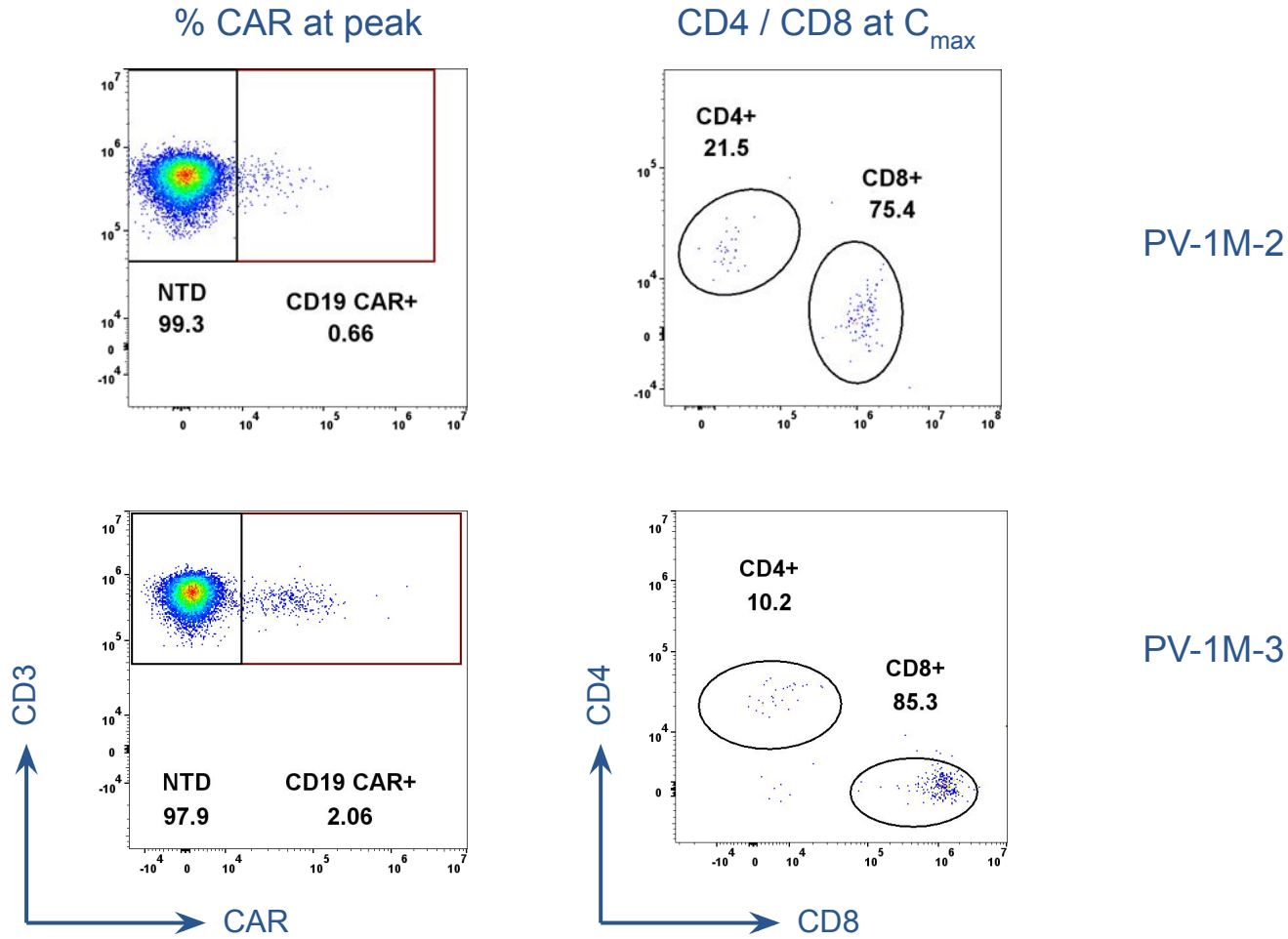


As of 11 September 2025. Cabaletta Bio: Data on file. 1M, 1 million CAR T cells / kg; CAR, chimeric antigen receptor; GFP, green fluorescent protein; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel.

Rese-cel peak expansion is observed 14 to 19 days post-infusion

Rese-cel at peak expansion becomes CD8$^+$ dominant in patients where CAR T cells are detectable

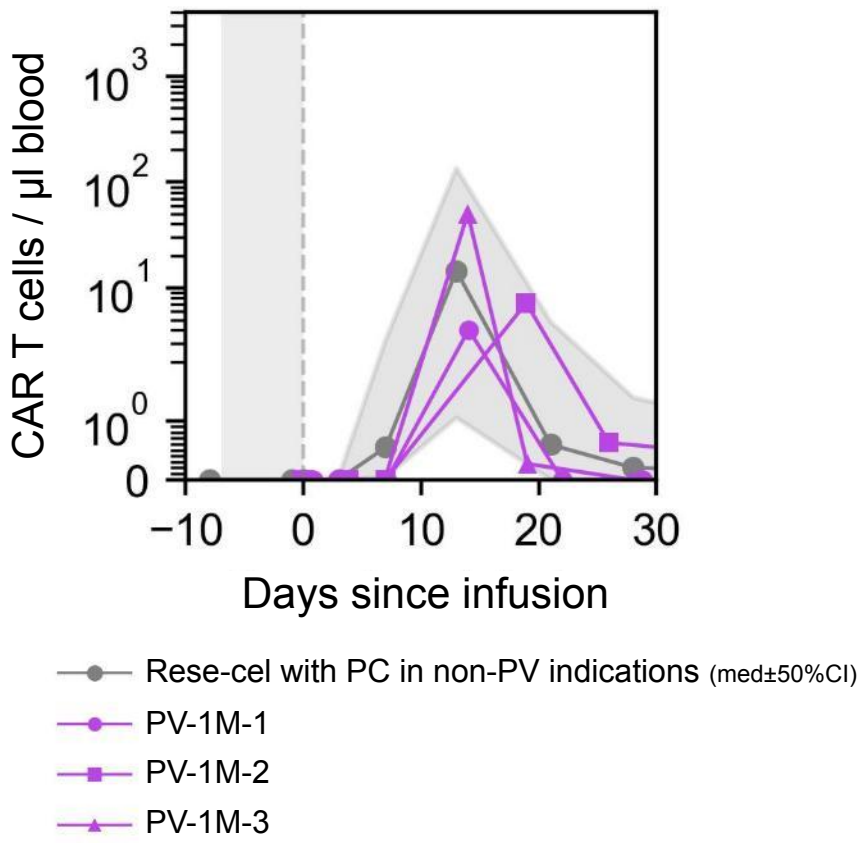


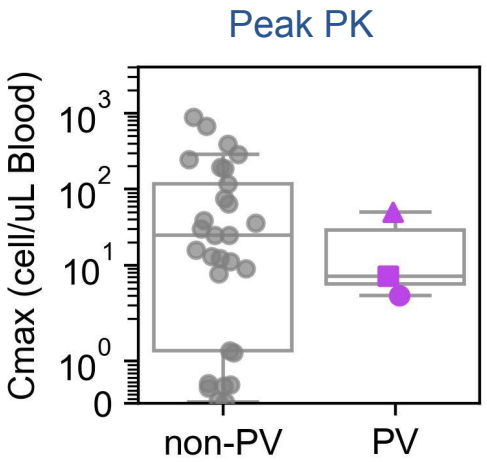


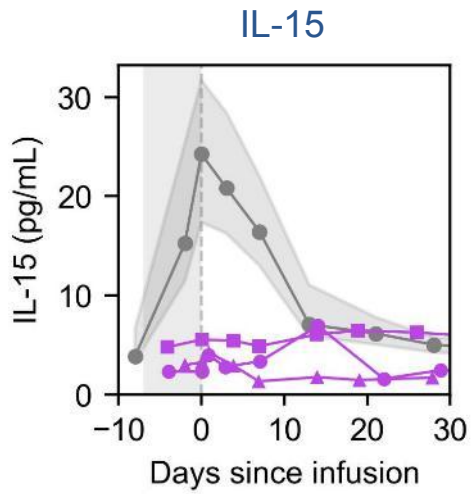
As of 11 September 2025. Cabaletta Bio: Data on file.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). 1M, 1 million CAR T cells / kg; CAR, chimeric antigen receptor; C_{max}, maximum CAR T cell concentration; NTD, non-transduced; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel.

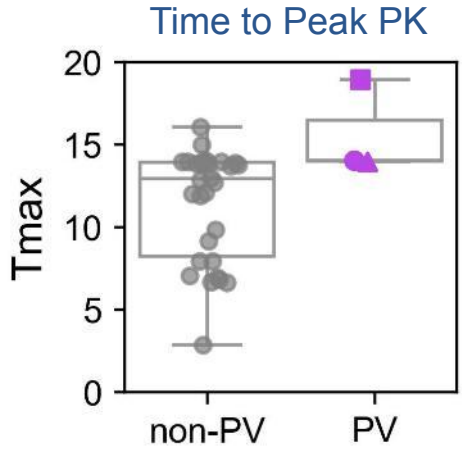
Peak expansion occurs slightly later in PV patients that did not receive PC

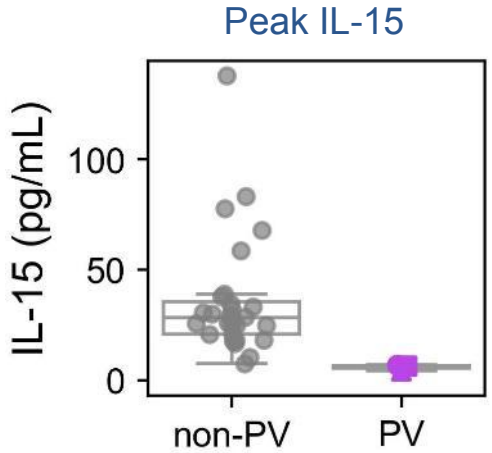
Similar magnitude of rese-cel expansion observed in PC and non-PC cohorts in the absence of elevated serum IL-15







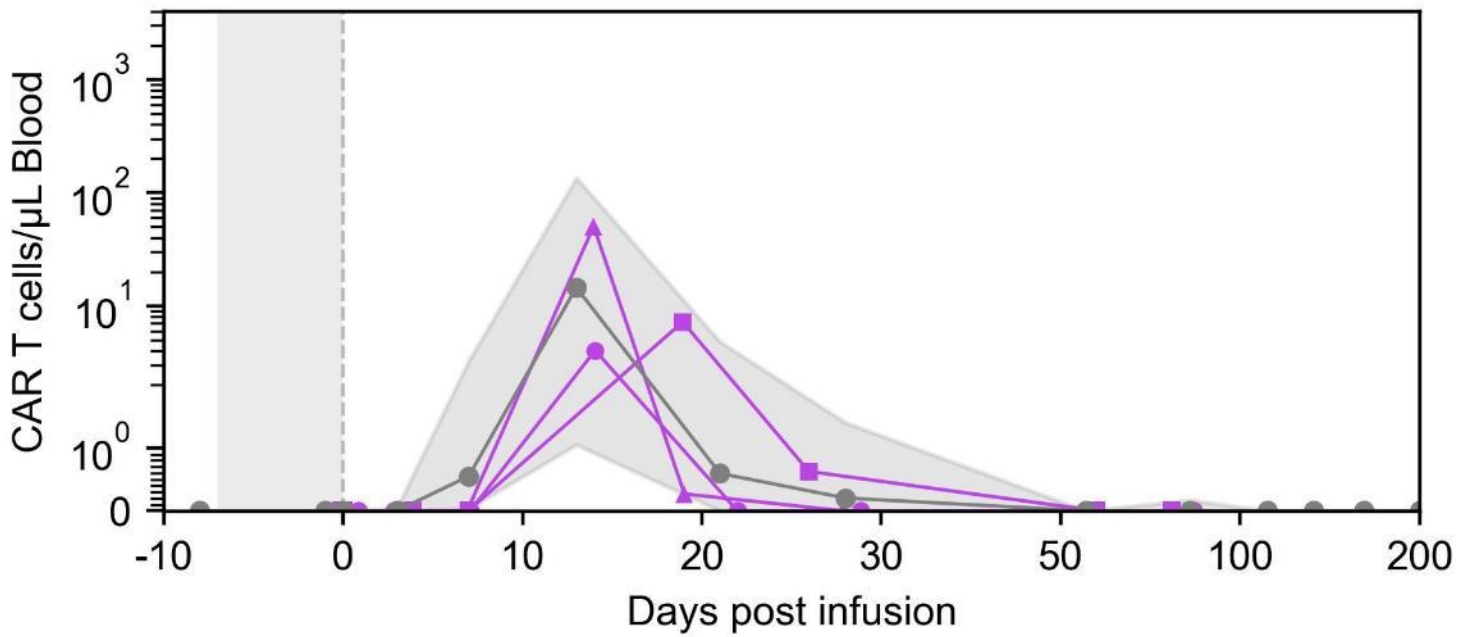




non-PV
PV-1M-1
PV-1M-2
PV-1M-3

As of 11 September 2025. Cabaletta Bio: Data on file.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). Gray vertical shading indicates PC window relative to infusion. 1M, 1 million CAR T cells / kg; CAR, chimeric antigen receptor; CI, confidence interval; IL, interleukin; PC, preconditioning; PK, pharmacokinetics; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel.

Contraction of rese-cel in PV patients is similar to rese-cel patients treated with PC



Rese-cel with PC in non-PV indications (med±50%CI)
PV-1M-1
PV-1M-2
PV-1M-3

As of 11 September 2025. Cabaletta Bio: Data on file.
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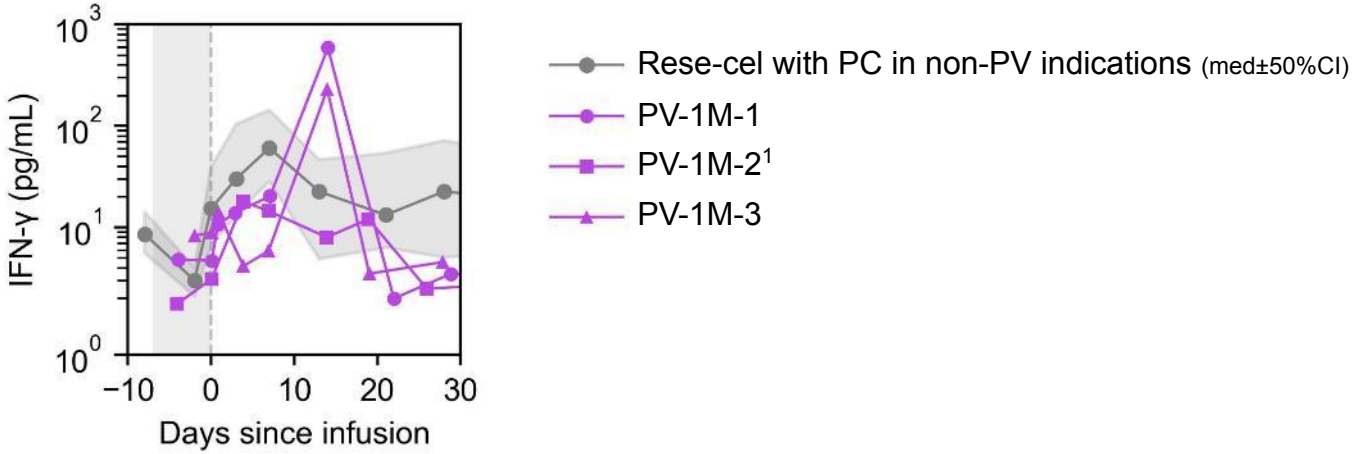
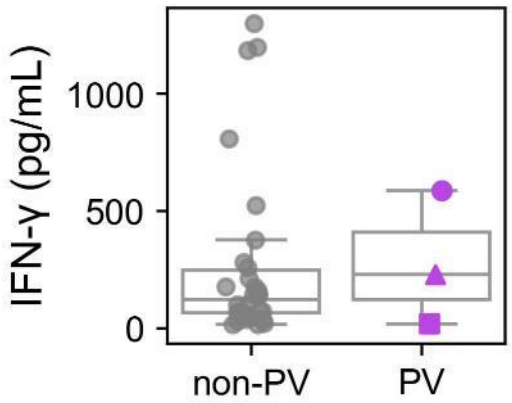
IFN-γ induction is observed ~ 2 weeks after infusion

IFN-γ induction occurs ~ 1 week later in PV subjects without PC than in rese-cel patients with PC

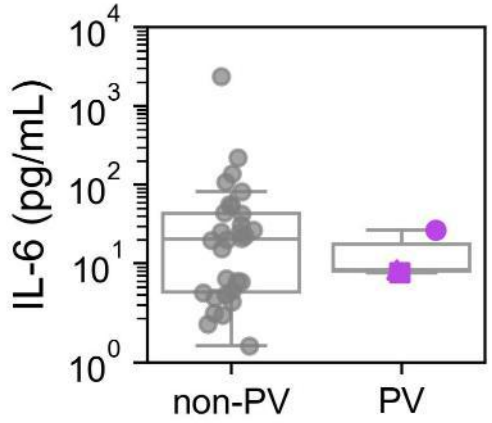
IFN-γ



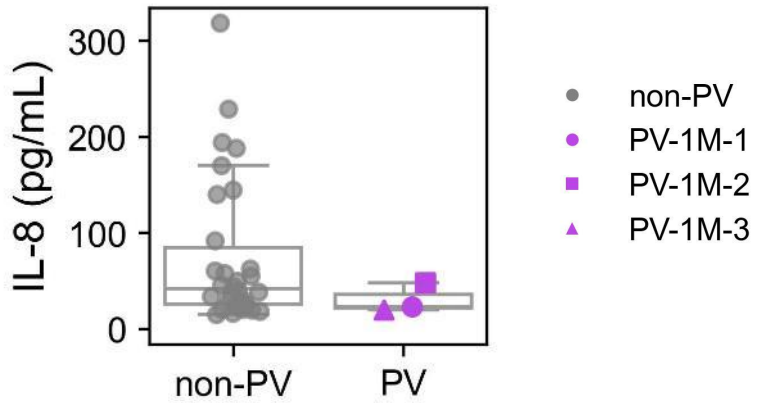
Peak IFN-γ



Peak IL-6



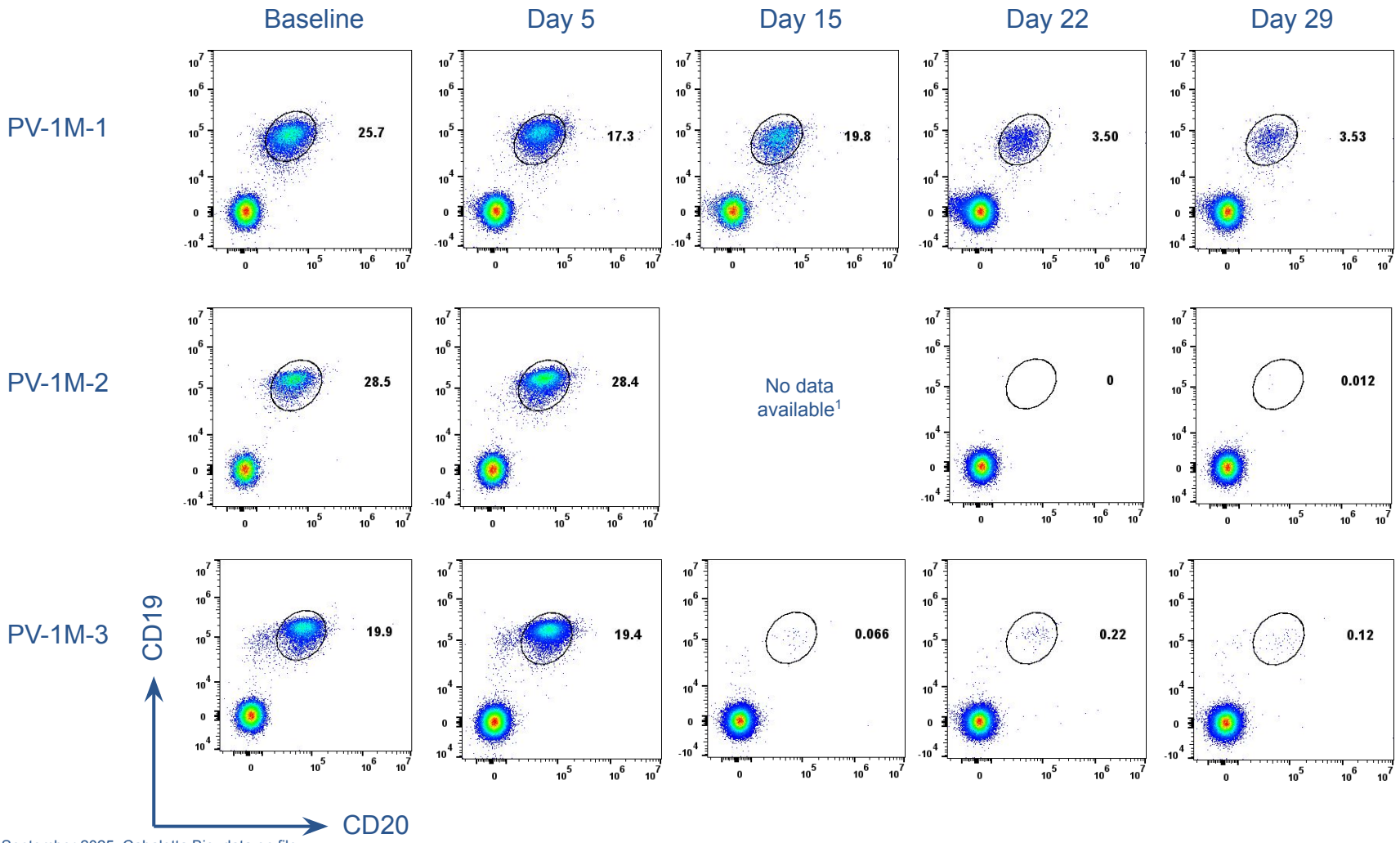
Peak IL-8

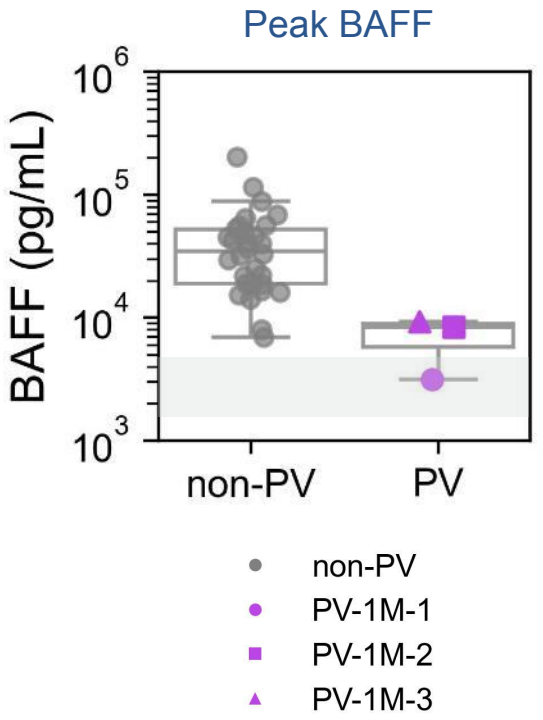


As of 11 September 2025. Cabaletta Bio: Data on file. Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). Gray vertical shading indicates PC window relative to infusion. 1M, 1 million CAR T cells / kg; CI, confidence interval; IFN, interferon; IL, interleukin; PC, preconditioning; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel. [1]PV-1M-2 received high dose steroids approximately 12 days after infusion (Day 13 study visit) due to disease flare.

B cell depletion & serum BAFF induction observed in all subjects

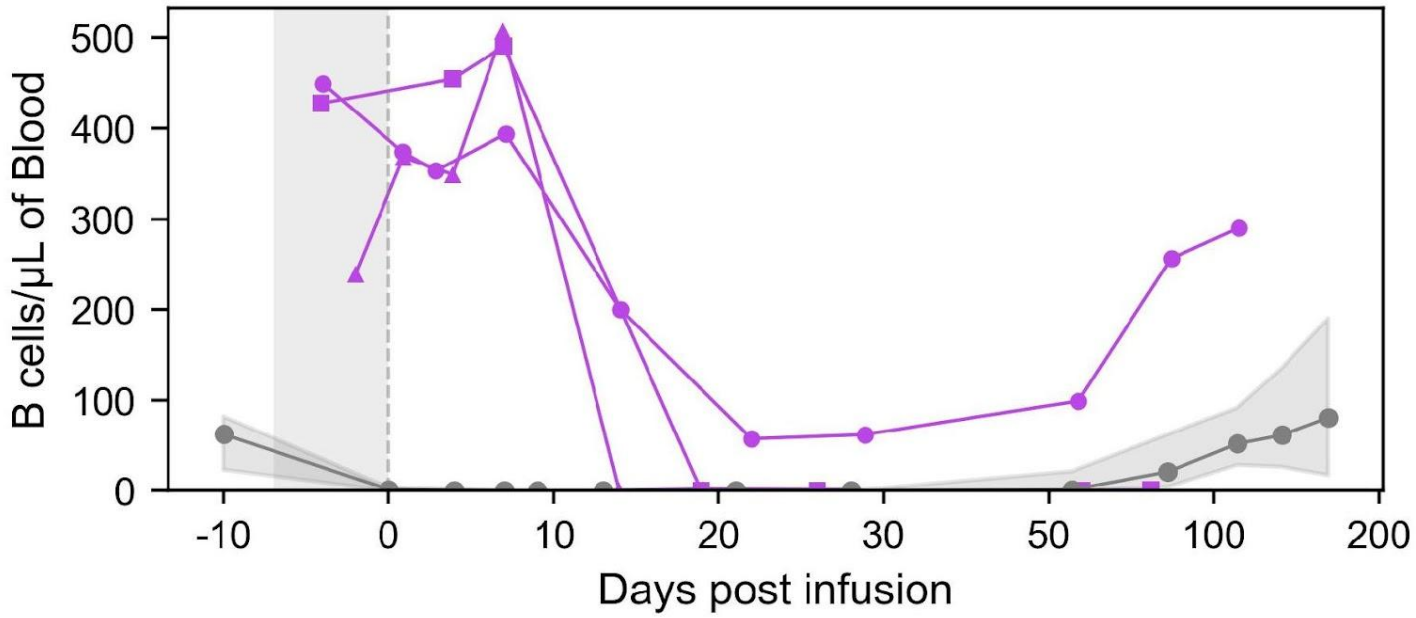
PV-1M-1 had an ~ 84% reduction, PV-1M-2 & PV-1M-3 had 100% reduction





As of 11 September 2025. Cabaletta Bio: data on file.
Gray shading in BAFF plot is range of median serum BAFF induction observed in PV patients following rituximab (Nagel et. al, 2009 *Journal of Investigative Dermatology* and Hébert et. al, 2021 *Frontiers in Immunology*). 1M, 1 million CAR T cells / kg; BAFF, B cell activating factor; PV, pemphigus vulgaris.
1. Sample collection issue.

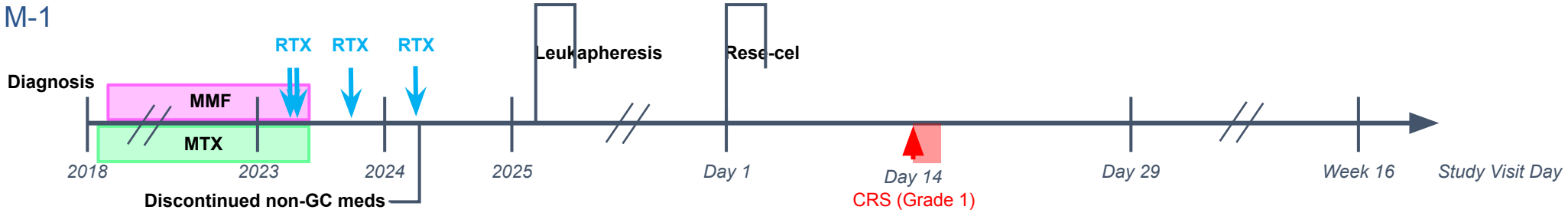
PV peripheral B cell depletion kinetics similar to patients treated without PC*

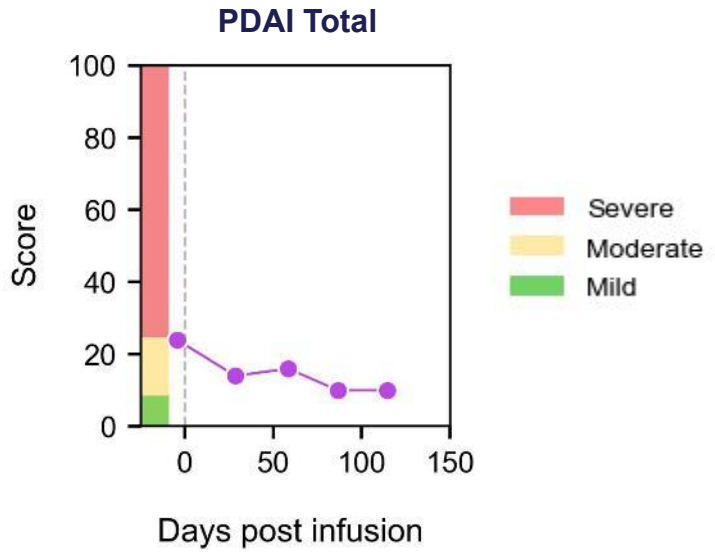


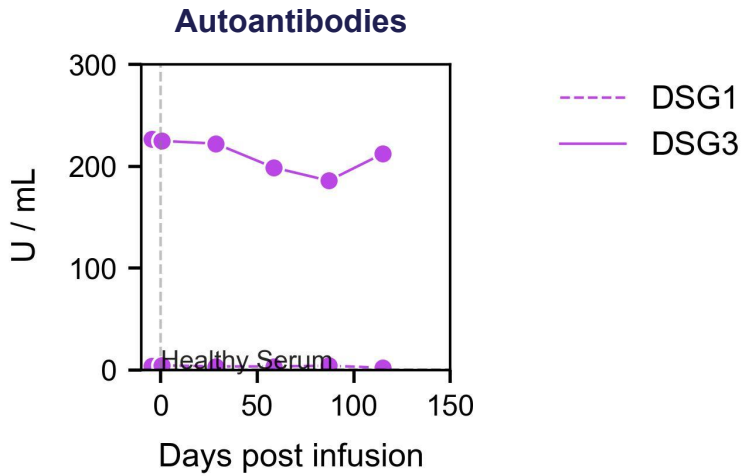
*As of 11 September 2025. Cabaletta Bio: Data on file.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). Gray vertical shading indicates PC window relative to infusion. 1M, 1 million CAR T cells / kg; CAR, chimeric antigen receptor; CI, confidence interval; IL, interleukin; PC, preconditioning; PK, pharmacokinetics; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel.

Early efficacy data following rese-cel infusion without PC*

PV-1M-1





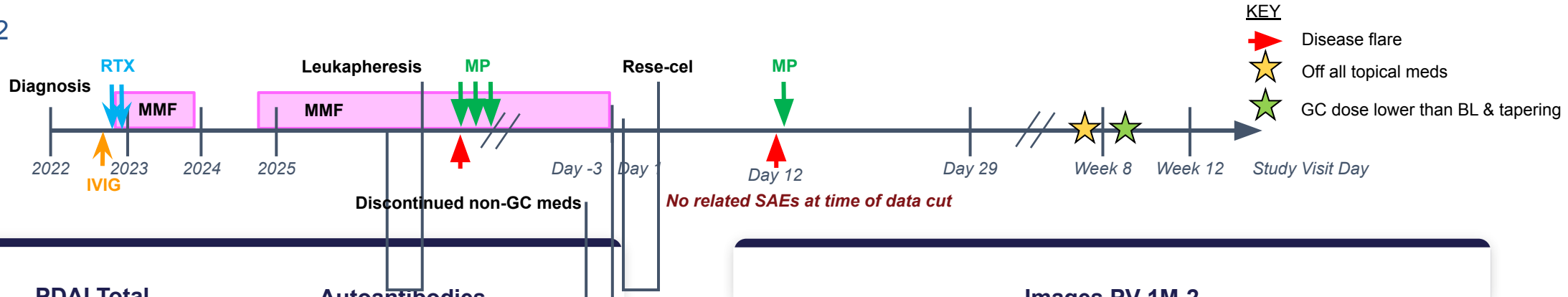


Reduction in PDAI Total in PV-1M-1 at this initial dose confirms meaningful clinical activity but limited impact on autoantibodies for immunomodulatory-free improvement in patients with refractory pemphigus

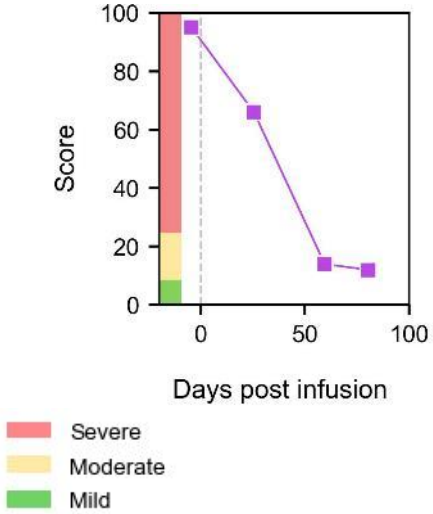
*As of 11 September 2025. Cabaletta Bio: Data on file. Disease severity intervals as defined Krain RL, et al. *Br J Dermatol.* 2021;184(5): 975–977.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). 1M, 1 million CAR T cells / kg; CRS, cytokine release syndrome; DSG1, desmoglein 1; DSG3, desmoglein 3; GC, glucocorticoid; MMF, mycophenolate mofetil; MTX, methotrexate; PC, preconditioning; PDAI, pemphigus disease area index; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel; RTX, rituximab. Note: Timeline not to scale and shows select medications not including low-dose GCs and topical medications.

Early efficacy data following rese-cel infusion without PC*

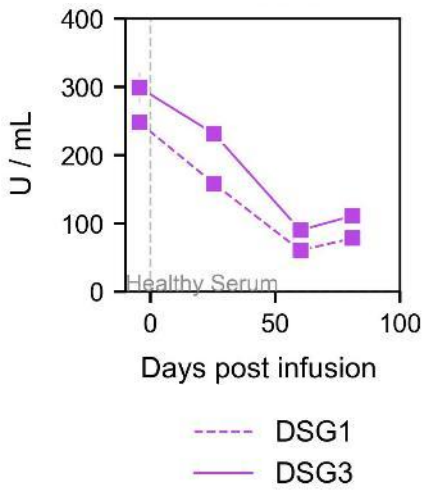
PV-1M-2



PDAI Total



Autoantibodies



Images PV-1M-2

Baseline

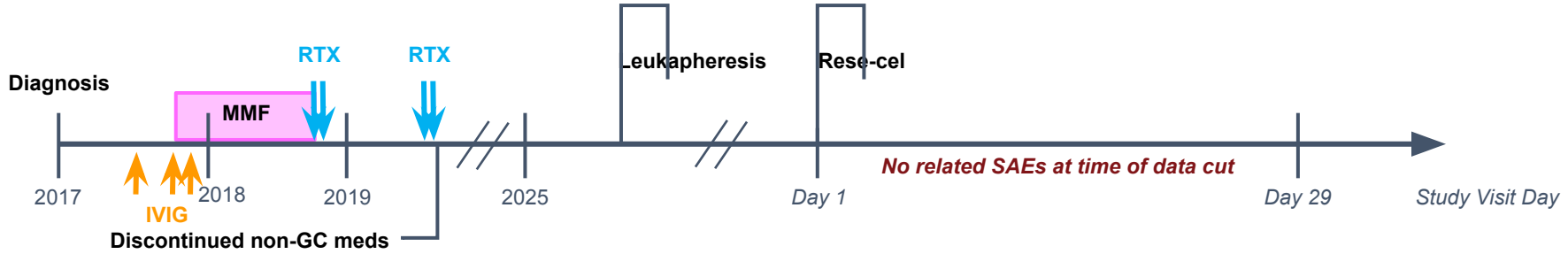
Week 12

Reduction in PDAI Total in PV-1M-2 from 95 to 12 within three months reflects profound clinical activity with rapid and robust elimination of autoantibodies

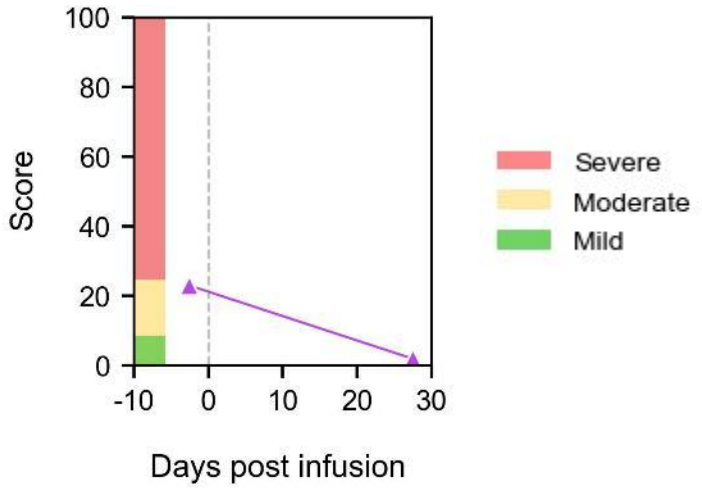
*As of 11 September 2025. Cabaletta Bio: Data on file. Disease severity intervals as defined in Krain RL, et al. *Br J Dermatol.* 2021;184(5): 975–977.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). 1M, 1 million CAR T cells / kg; BL, baseline; DSG1, desmoglein 1; DSG3, desmoglein 3; GC, glucocorticoid; IVIG, intravenous immunoglobulin; MMF, mycophenolate mofetil; MP, methylprednisolone; PC, preconditioning; PDAI, pemphigus disease area index; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel; RTX, rituximab; SAE, Serious Adverse Event. Note: Timeline not to scale and shows select medications not including GCs and topical medications.

Early efficacy data following rese-cel infusion without PC*

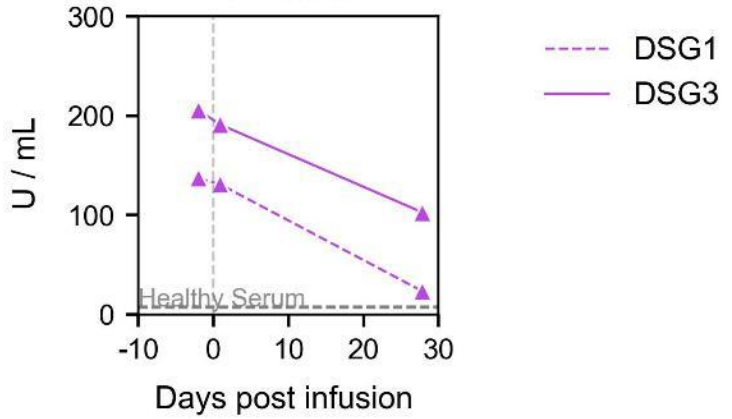
PV-1M-3



PDAI Total



Autoantibodies



Reduction in PDAI Total in PV-1M-3 from 23 to 2 within one month reflects profound clinical activity with rapidly declining levels of autoantibodies

*As of 11 September 2025. Cabaletta Bio: Data on file. Disease severity intervals as defined in Krain RL, et al. *Br J Dermatol.* 2021;184(5): 975–977.
Gray vertical dotted line indicates day of rese-cel infusion (study visit Day 1). 1M, 1 million CAR T cells / kg; DSG1, desmoglein 1; DSG3, desmoglein 3; GC, glucocorticoid; IVIG, intravenous immunoglobulin; MMF, mycophenolate mofetil; PC, preconditioning; PDAI, pemphigus disease area index; PV, pemphigus vulgaris; rese-cel, resecabtagene autoleucel; RTX, rituximab. Note: Timeline not to scale and shows select medications not including low-dose GCs and topical medications.

Summary of clinical and translational data for initial dose cohort of rese-cel without preconditioning (PC)*,[1]

- Clear evidence of biologic and clinical activity in all 3 PV patients in the initial dose cohort
  - PDAI improvements were present in all three and was compelling in two of the three patients
  - All patients remain off all immunomodulators while GCs are being tapered from low doses
- Complete B cell depletion was observed in the 2 patients with the greatest clinical response
  - BAFF levels in these two patients were within the range of patients treated with rese-cel with PC
  - Magnitude of BAFF induction in these two patients was greater than BAFF induction observed with rituximab
- Rese-cel persistence in PV patients without PC was similar to patients who received PC
  - Peak persistence was not impacted by absence of PC and timing of peak persistence occurred slightly later without PC
- IFNγ induction in non-PC patients appeared to be slightly higher compared to PC patients
  - Higher IFNγ may be attributable to higher B cell burden in PV patients and/or absence of preconditioning
- Rese-cel was well tolerated in PV patients without preconditioning
  - Based on limited data without PC, CRS rate was similar in rese-cel patients with PC
- Infusion product was $CD4^+$ dominant: $CD4^+$ & $CD8^+$ fractions show similar *in vitro* activity

*As of 11 September 2025. Cabaletta Bio: Data on file.
BAFF, B cell activating factor; CRS, cytokine release syndrome; GC: glucocorticoids; PC, preconditioning; PDAI, pemphigus disease area index; PV, pemphigus vulgaris; rese-cel, resacabtagene autoleucel.
[1]Standard preconditioning in RESET trials consists of fludarabine 25 mg/m^2 x 3 days and cyclophosphamide 1000 mg/m^2 x 1 day

Next Steps

- RESET-SLE™ trial expanding to include a no PC cohort with initial clinical data expected in 2H2026
- Dose escalation in RESET-PV™ trial with initial clinical data expected in 1H2026

Acknowledgements

This is the collective work of many people

Patients and caregivers involved in the RESET™ clinical program

Site investigators and staff involved with these patients from the RESET™ clinical program

- UT Southwestern
- University of California, Davis
- Northwestern University
- Translational and Correlative Studies Laboratories (TCSL), University of Pennsylvania

Cabaletta Bio team

- Biostatistics
- Clinical Development
- Clinical Operations
- Computational Biology
- Manufacturing
- Medical Affairs
- Translational Medicine
- Quality Assurance

Backup Slides

B cell repopulation in PV subjects dosed with rese-cel without PC

B-cell repopulation