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# Highlights from Phase 1 Clinical Program Evaluating INCA033989, mutCALR antibody, in Myelofibrosis

American Society of Hematology 2025 Annual Meeting

December 7, 2025



# Forward Looking Statements

Except for the historical information set forth herein, the matters set forth in this release contain predictions, estimates and other forward-looking statements, including any discussion of the following: the potential presented by Incyte's portfolio generally and INCA033989 specifically, including the expansion of the addressable treatment population across all MPNs; planned next steps for INCA033989, including the initiation of pivotal registration studies in the near future and the development of a subcutaneous formulation; and expectations regarding additional planned development for INCA033989, including study initiations, data readouts and discussions with regulators.

These forward-looking statements are based on Incyte's current expectations and subject to risks and uncertainties that may cause actual results to differ materially, including unanticipated developments in and risks related to: further research and development and the results of clinical trials possibly being unsuccessful or insufficient to meet applicable regulatory standards or warrant continued development; the ability to enroll sufficient numbers of subjects in clinical trials and the ability to enroll subjects in accordance with planned schedules; timing of clinical trials, including initiation and completion; determinations made by the FDA, EMA and other regulatory agencies; Incyte's dependence on its relationships with and changes in the plans of its collaboration partners; the efficacy or safety of Incyte's products and the products of Incyte's collaboration partners; the acceptance of Incyte's products and the products of Incyte's collaboration partners in the marketplace; market competition; unexpected variations in the demand for Incyte's products and the products of Incyte's collaboration partners; the effects of announced or unexpected price regulation or limitations on reimbursement or coverage for Incyte's products and the products of Incyte's collaboration partners; sales, marketing, manufacturing and distribution requirements, including Incyte's and its collaboration partners' ability to successfully commercialize and build commercial infrastructure for newly approved products and any additional products that become approved; greater than expected expenses, including expenses relating to litigation or strategic activities; variations in foreign currency exchange rates; and other risks detailed in Incyte's reports filed with the Securities and Exchange Commission, including its annual report on form 10-K and its quarterly report for form 10-Q for the quarter ended September 30, 2025. Incyte disclaims any intent or obligation to update these forward-looking statements.



# Opening Remarks

**Pablo Cagnoni, MD**

Head of Research & Development



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# Today's agenda

- 01** | Welcome & opening remarks
- 02** | Myelofibrosis: Disease overview, treatment goals & current care paradigm
- 03** | Preliminary efficacy & safety results from two Phase 1 dose escalation trials evaluating INCA033989 in patients with myelofibrosis
- 04** | Molecular characterization of patients with myelofibrosis & essential thrombocythemia treated with INCA033989
- 05** | Next steps
- 06** | Q&A

**Pablo Cagnoni, MD**  
Head of Research & Development

**Claire Harrison, MD, FRCP**  
Guy's and St Thomas' Hospital

**John Mascarenhas, MD**  
Icahn School of Medicine at Mount Sinai

**Bethan Psaila, MD, PhD**  
University of Oxford

**Steven Stein, MD**  
EVP, Chief Medical Officer

**Incyte Team**

# Featured expert speakers



**Claire Harrison, MD, FRCP**  
Deputy Chief Medical Officer at  
Guy's and St. Thomas' Hospital  
Professor of Medicine at Guy's  
and St. Thomas' Hospital



**John Mascarenhas, MD**  
Director of the Center of  
Excellence for Blood Cancers  
and Myeloid Disorders  
Professor of Medicine at the Icahn  
School of Medicine at Mount Sinai

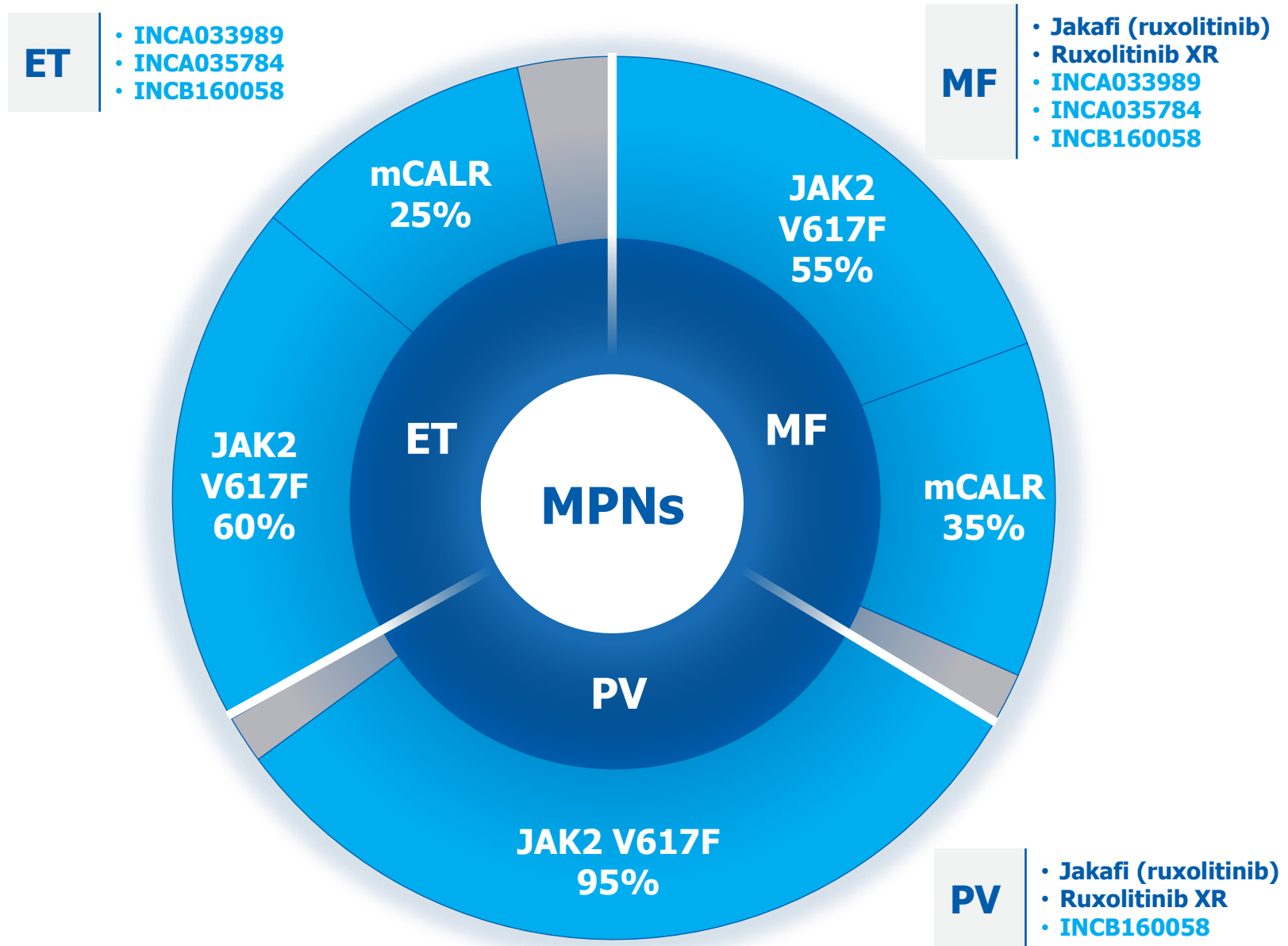


**Bethan Psaila, MD, PhD**  
Associate Member of the Oxford  
Branch of the Ludwig Institute  
for Cancer Research  
Professor in Haematology at the  
University of Oxford



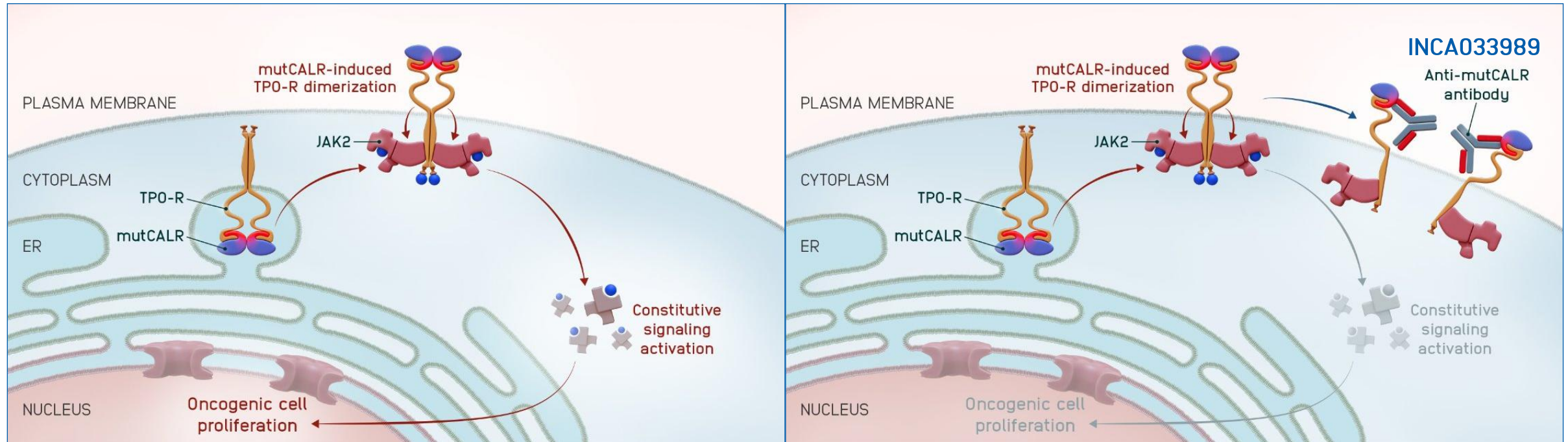
# Delivering solutions across the MPN spectrum

- Expanding addressable treatment population across all MPNs through **symptomatic** and **targeted** therapies
- Pipeline potential to address **85%+** of people living with MPNs



# INCA033989: Novel mutant CALR targeted therapy

Monoclonal antibody that selectively targets mutCALR in complex with thrombopoietin receptor to inhibit oncogenic signaling and proliferation of cells<sup>1</sup>



<sup>1</sup>Reis, et al. *Blood*. 2024;22:2336-2348.

Figure reprinted from Reis E, et al. *Blood*. 2024;144:2336-2348 with permission of Elsevier Inc. Copyright © 2024 American Society of Hematology. Abbreviations: CALR, calreticulin; MPL, myeloproliferative leukemia protein; mutCALR, mutations of calreticulin; TPO-R, thrombopoietin receptor (MPL).

# Proof-of-concept trials capture broad treatment paradigm and anchor future development

<b>ET</b> 989 monotherapy	<b>MF</b> 989 monotherapy	<b>MF</b> 989 + ruxolitinib	<b>MF</b> 989 vs 989 + ruxolitinib
High-risk patients resistant or intolerant to prior cytoreductive therapy  <i>Breakthrough Therapy Designation (Type 1)*</i>	Patients previously treated with JAK inhibitor who are resistant, refractory, or intolerant to treatment or intermediate to high-risk patients who are ineligible for JAK inhibitor treatment	Intermediate to high-risk patients who exhibiting a suboptimal response to ruxolitinib ( $\geq 12$ weeks of ruxolitinib treatment)	Intermediate to high-risk treatment-naïve patients



\*U.S. FDA granted INCA033989 Breakthrough Therapy Designation in December 2025  
 989, INCA033989; ET, essential thrombocythemia; JAK, Janus kinase; MF, myelofibrosis

# Key oral presentations highlights novel mCALR antibody for the treatment of CALR-mutated MPNs

<b>ET</b> 989 monotherapy	<b>MF</b> 989 monotherapy	<b>MF</b> 989 + ruxolitinib	<b>MF &amp; ET</b> Translational
<b>#1024</b> Safety and efficacy of INCA033989, a novel first in class mutant calreticulin-specific monoclonal antibody, in patients with essential thrombocythemia	<b>#484</b> Safety and efficacy of the mutant calreticulin-specific monoclonal antibody INCA033989 as monotherapy or in combination with ruxolitinib in patients with myelofibrosis: preliminary results from dose escalation of two global phase 1 studies		<b>#71</b> Molecular characterization of patients with myeloproliferative neoplasms treated with INCA033989 demonstrates selective targeting of CALR mutant hematopoietic cells



# Myelofibrosis: Disease overview, treatment goals and current care paradigm

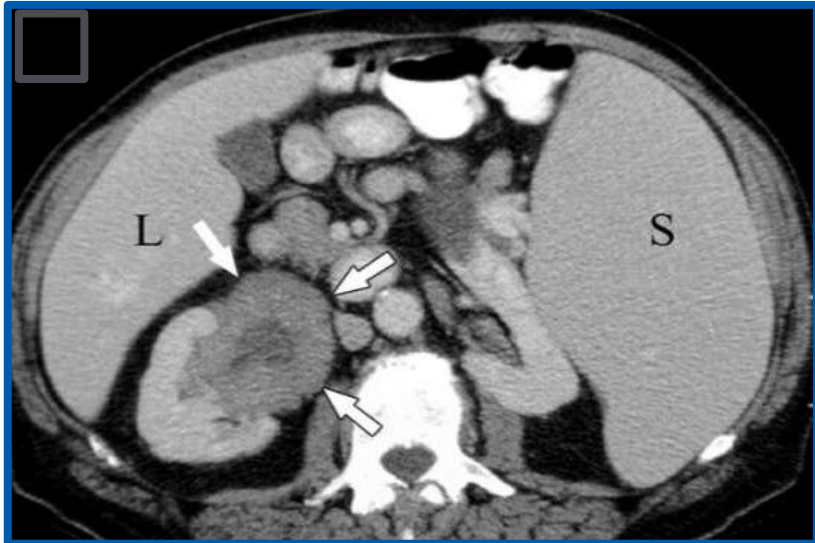
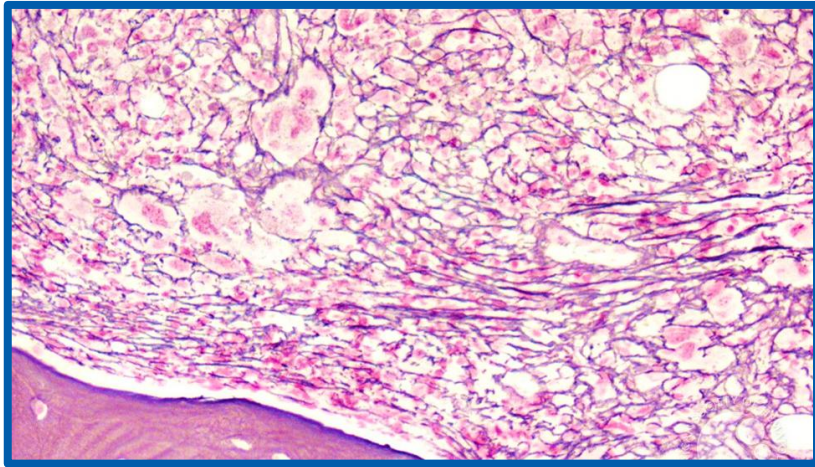
**Claire Harrison, MD**

Guy's and St Thomas' Hospital



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# Myelofibrosis overview



◀ Contrast-enhanced CT scan of the upper abdomen showing massive splenomegaly (S), the liver (L), and a renal pelvic mass (arrows) suggesting extramedullary hematopoiesis

## Disease characteristics:

- Clonal disorder
- Bone marrow fibrosis
- Splenomegaly & extramedullary hematopoiesis<sup>1,2,a,b</sup>
- Abnormal blood counts:
  - Anemia
  - Thrombocytosis
  - Thrombocytopenia

## Constitutional symptoms:

- Most common reported symptoms<sup>3,a</sup>
  - Fatigue
  - Early satiety
  - Inactivity
  - Abdominal pain
- MF-related symptoms have been shown to reduce QOL in up to 42% of patients<sup>3</sup>



<sup>a</sup>Figure adapted from Choi H, et al. *Radiology*. 2004;231:52-56. Permission to use granted by RSNA.

<sup>b</sup>Photograph courtesy of Srdan Verstovsek, MD, PhD. MD Anderson Cancer Center. Houston, TX.

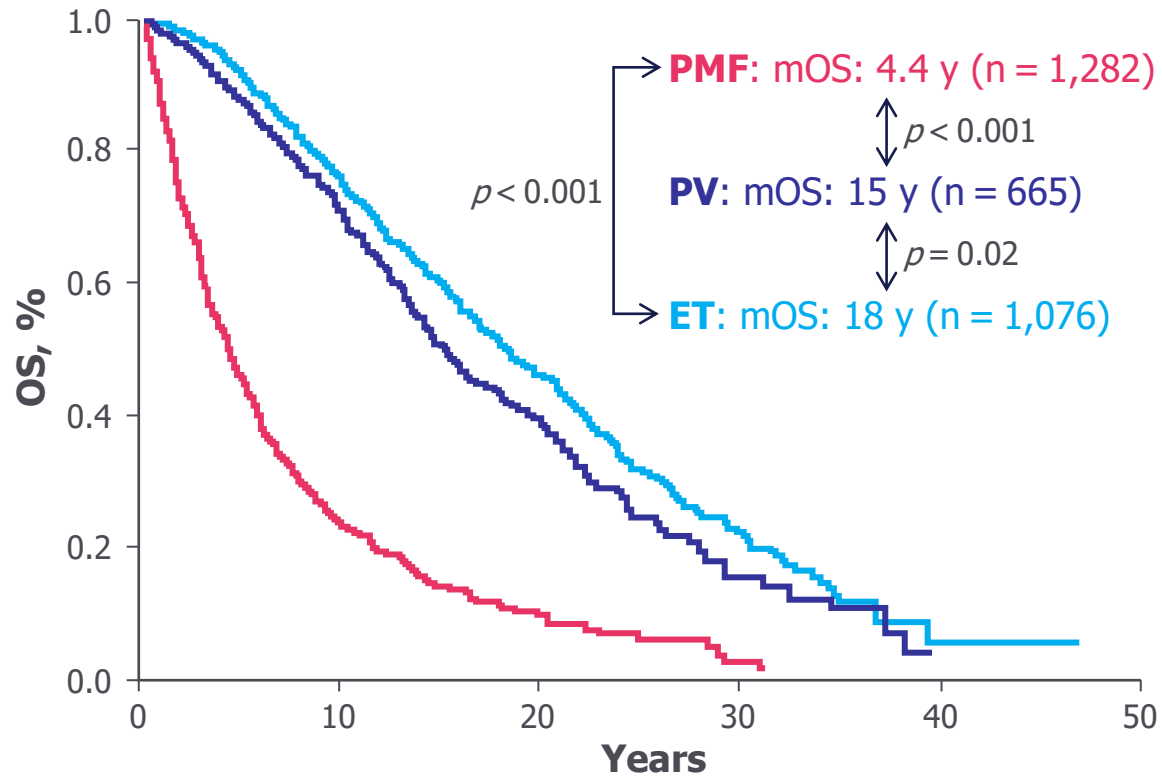
<sup>1</sup>Georgiades CS, et al. *AJR Am J Roentgenol*. 2002;179:1239-1243. <sup>2</sup>Choi H, et al. *Radiology*. 2004;231:52-56.

<sup>3</sup>Randhawa J, et al. *J Hematol Oncol*. 2012;5:43. <sup>4</sup>Mesa RA, et al. *Cancer*. 2006;107:361-370.

Abbreviations: CT, computed tomography; PMF, primary myelofibrosis; QOL, quality of life.

# Among classic MPNs, MF is associated with the shortest median survival and highest risk of transformation

Comparison of survival in patients with MPNs<sup>1</sup>



MPN	Median Survival (All Patients)	Risk of Transformation (Per 10 years)
PMF	4.4 years	8 – 23% <sup>2</sup>
PV	15 years	5 – 15% <sup>3</sup>
ET	18 years	1.4% <sup>4</sup>

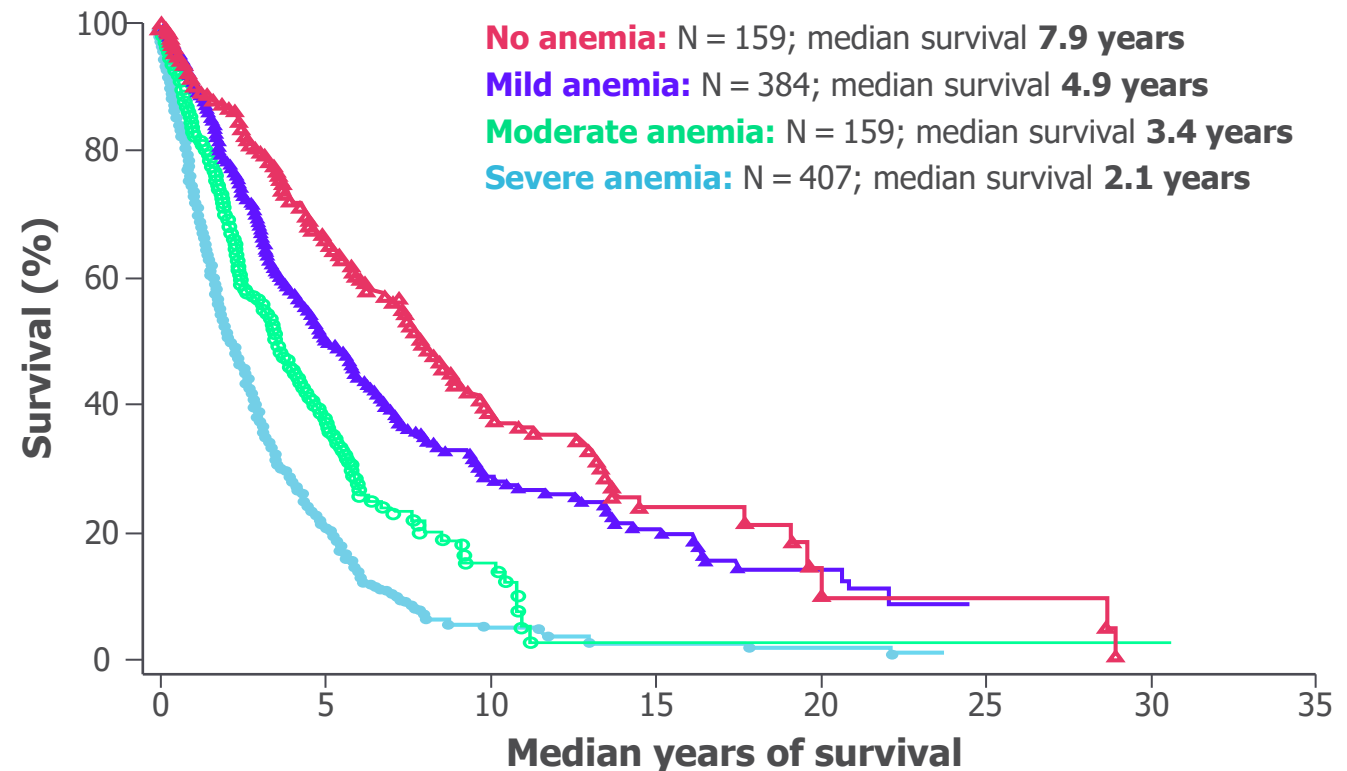


1. Modified from Szuber N, et al. *Mayo Clin Proc.* 2019;94:599-610. 2. Mesa RA, et al. *Blood.* 2005;105:973-977. 3. Finazzi G, et al. *Blood.* 2005;105:2664-2670. 4. Wolanskyj AP, et al. *Mayo Clin Proc.* 2006;81:159-166. ET, essential thrombocythemia; MPN, myeloproliferative neoplasm; mOS, median overall survival; OS, overall survival; PMF, primary myelofibrosis; PV, polycythemia vera.

# Anemia in MF is a key predictor of poor prognosis

- **35%** of patients with MF are **anemic at diagnosis**<sup>1</sup>
- **Significantly reduced overall survival** compared to those without anemia\*<sup>1</sup>
  - More than **double the risk of death** compared to non-anemic patients
- Anemia in MF leads to fatigue, weakness, reduced exercise tolerance, and **impaired quality of life**
- Anemia **exacerbates other MF symptoms**, such as dyspnea and palpitations, and can limit the ability to tolerate certain therapies
- **Improving anemia** has been shown to be associated with **improved survival**<sup>3</sup>

Survival stratified by degree of anemia<sup>2</sup>



# Management goals in MF<sup>1,2</sup>



## Reduce splenomegaly

Reducing splenomegaly may decrease associated morbidities and improve QOL<sup>3,4</sup>



## Alleviate anemia

Anemia is the most common laboratory abnormality and is a negative prognostic factor<sup>6</sup>



## Improve symptoms

81% of patients reported that their MF-related symptoms reduced their QOL<sup>5,a</sup>



## Improve survival

Despite current therapies, median overall survival is only 4 – 5 years<sup>7</sup>



<sup>a</sup>Based on an analysis of the MPN Landmark survey, a web-based survey that included 65 multiple-choice questions with an estimated completion time of 20-25 minutes. Questions evaluating emotional impact and burden of disease were evaluated on a scale that ranged from 1 (not at all) to 5 (a great deal).

<sup>1</sup>Tefferi A, Vainchenker W. *J Clin Oncol*. 2011;29:573-582. <sup>2</sup>Tefferi A. *Am J Hematol*. 2016;91:1262-1271. <sup>3</sup>Randhawa J, et al. *J Hematol Oncol*. 2012;5:43. <sup>4</sup>Mesa RA, et al. *Cancer*. 2006;107:361-370.

<sup>5</sup>Mesa R, et al. *BMC Cancer*. 2016;16:167. <sup>6</sup>Guglielmelli P, Vannucchi AM. *Leuk Res*. 2013;37:1429-1431. <sup>7</sup>Szuber N, et al. *Mayo Clin Proc*. 2019;94:599-610.

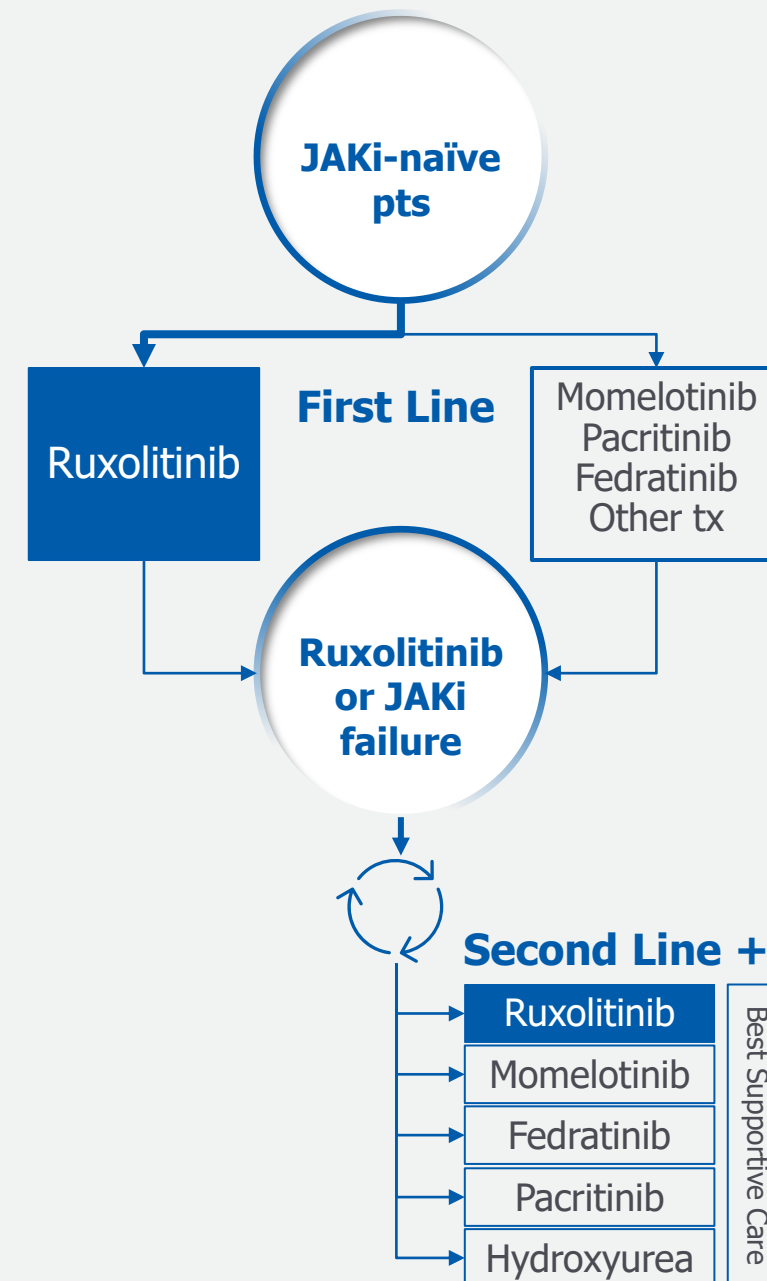
# Persistent unmet need for disease-modifying therapies

## First Line

- **Jakafi** (ruxolitinib) is the **standard of care** in 1L MF
- Despite all current therapies, **median overall survival is only 4 – 5 years**

## Second Line +

- **Post-JAK outcomes are poor**
- **Median survival** following ruxolitinib discontinuation is **14 months**



# Conclusion

- **Myelofibrosis (MF)** is a **clonal, progressive myeloproliferative neoplasm** characterized by:
  - Bone marrow fibrosis
  - Extramedullary hematopoiesis with splenomegaly
  - Cytopenias
  - Constitutional symptoms
- Each hallmark of MF contributes to disease burden and prognosis, collectively leading to **impaired quality of life and shortened survival**
- Goals of MF management remain only partially met
- Current treatments improve spleen size, symptoms and survival (ruxolitinib) but patients ultimately progress:
  - **Median overall survival of 4 – 5 years**
- **Unmet need remains** for innovative approaches **targeting underlying molecular drivers**

# **Preliminary efficacy and safety results from two Phase 1 dose escalation trials evaluating INCA033989 in patients with myelofibrosis**

**John Mascarenhas, MD**

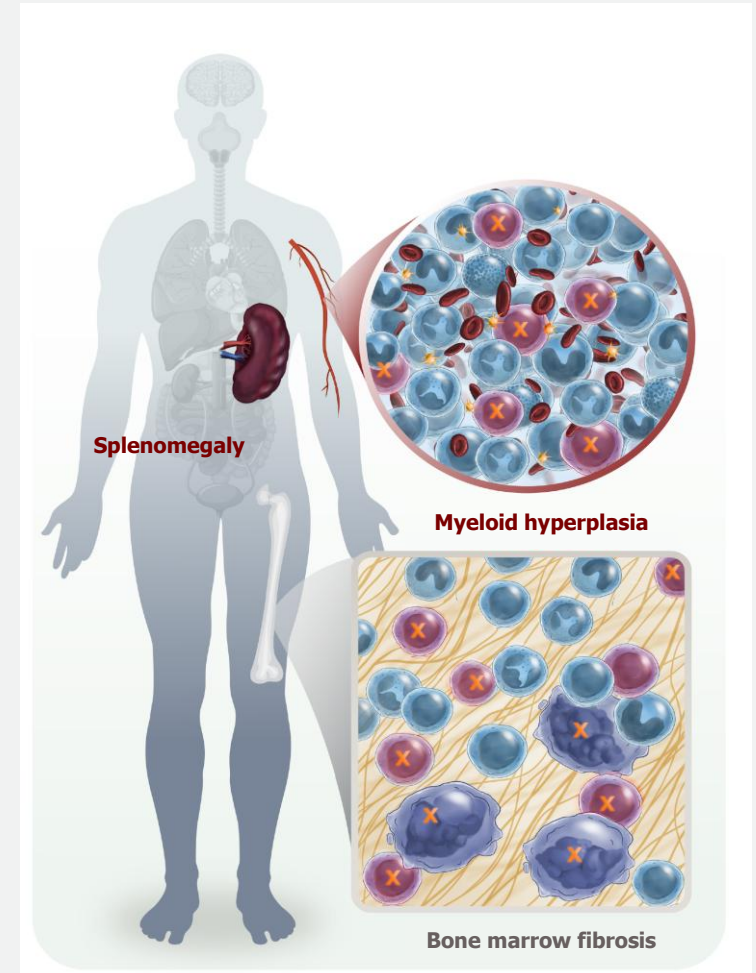
Icahn School of Medicine at Mount Sinai



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# *CALR* mutations are frequent in myelofibrosis with no mutant-specific treatment available

- **Myelofibrosis** (MF) is a myeloproliferative neoplasm (MPN) characterized by bone marrow fibrosis, anemia, splenomegaly, debilitating symptoms, morbidity, and mortality<sup>1</sup>
- Mutations in exon 9 of calreticulin (mut*CALR*) are found in ~**25-35%** of patients with MF<sup>2,3</sup>
- **Higher *CALR* variant allele frequency (VAF)** in MF has been associated with **more advanced disease**, including anemia and elevated peripheral blasts<sup>4</sup>
- Current treatments in MF are **not mutant targeted** and have limited efficacy in reducing mut*CALR* VAF<sup>5</sup>



# Phase 1 program evaluating INCA033989 in patients with a CALR mutation

## MF

- ≥18 years of age with a diagnosis of primary or post-ET MF
- Presence of mutCALR exon 9
- Spleen volume imaging ≥ 450 mL or palpable splenomegaly of ≥5 cm

Intolerant, resistant after ≥12 weeks, or ineligible for JAKi treatment

Prior ruxolitinib treatment for ≥12 weeks with a suboptimal response

Intermediate to high-risk treatment-naïve patients

## ET

- High risk; documented resistance/intolerance to ≥1 line of prior cytoreductive therapy

## Primary Endpoints

- Dose-limiting toxicities
- Treatment-emergent adverse events

## Secondary Endpoints

- SVR25 and SVR35 at week 24\*
- Anemia response<sup>1</sup>
- Symptom improvement based on the MPN-SAF TSS
- Changes in allele burden of mutCALR

- **INCA033989-101** (NCT05936359; outside the US) and **INCA033989-102** (NCT06034002; US only) are Phase 1 open-label studies evaluating INCA033989 in patients with high-risk ET or MF (as monotherapy or in combination with ruxolitinib)
- Administered intravenously every 2 weeks (24-2500mg)



1. Tefferi A. Blood. 2024;144(17):1813-1820.

\*A spleen response requires confirmation by MRI or CT showing ≥25% or ≥35% spleen volume reduction.

CALR, calreticulin; CT, computed tomography; ET, essential thrombocythemia; MF, myelofibrosis; MPN-SAF, Myeloproliferative Neoplasms Symptom Assessment Form; MRI, magnetic resonance imaging; mutCALR, mutations of calreticulin; RDE, recommended dose for expansion; TSS, total symptom score.

# Demographics and disease characteristics (monotherapy)

Variable	INCA033989 (N=52)
Median age (range), years	59.5 (34, 76)
Female, n (%)	17 (32.7)
Median time from initial diagnosis (range), years	7.4 (0, 25.3)
DIPSS risk status, n (%)	
Low risk	6 (11.5)
INT-1 risk	21 (40.4)
INT-2 risk	25 (48.1)
High risk	0
<i>CALR</i> exon 9 mutation type, n (%)	
Type 1	30 (57.7)
Type 2	11 (21.2)
Other	11 (21.2)
Median <i>CALR</i> VAF (range),* %	36 (24, 53)
No prior JAKi therapy, n (%)	10 (19.2)

Variable	INCA033989 (N=52)
Median platelets (range), GI/L	316.5 (41, 1290)
Median leukocytes (range), GI/L	6.1 (1.5, 27.2)
Median hemoglobin (range), g/dL	10.0 (7.0, 14.3)
Median MPN-SAF TSS (range)	21 (0, 65)
Median spleen volume (range), mL	1372 (226, 5060)
INCA033989 dose level, n (%)	
24 mg	3 (5.8)
50 mg	3 (5.8)
70 mg	3 (5.8)
100 mg	3 (5.8)
200 mg	5 (5.8)
250 mg	4 (7.7)
400 mg	4 (7.7)
750 mg	13 (25.0)
1500 mg	9 (17.3)
2500 mg	5 (5.8)



Data cutoff: September 25, 2025.

\*Measured centrally in peripheral blood by next-generation sequencing (INCA033989 monotherapy).

*CALR*, calreticulin; DIPSS, Dynamic International Prognostic Scoring System; INT, intermediate; JAKi, Janus kinase inhibitor; MPN-SAF, Myeloproliferative Neoplasms Symptom Assessment Form; TSS, total symptom score; VAF, variant allele frequency.

# 989 monotherapy is well tolerated in patients with MF

## Summary of TEAEs

TEAE, n (%)	INCA033989 (N=52)
Any TEAE	50 (96.2)
Treatment-related	30 (57.7)
Grade ≥3	16 (30.8)
Serious	5 (9.6)*
Fatal	0
Discontinuation due to TEAEs	2 (3.8) <sup>†</sup>
Dose reduction due to TEAEs	2 (3.8) <sup>‡</sup>
Infusion interruption due to TEAEs	3 (5.8)
Dose delay due to TEAEs	12 (23.1)
Dose-limiting toxicity	0

- **86.5%** patients were still receiving treatment<sup>||</sup>
- **No dose-limiting toxicities** were observed; the maximum tolerated dose was not reached (dose range 24-2500 mg)
- 11 patients experienced increased AST; 9 of 11 resolved (2 Grade 1 ongoing) at the time of data cut off
  - Roughly half (45%, n=5) had Grade 1 AST elevations at baseline
  - One (50mg) Grade 3 AST elevation; resolved within 6 days with dose reduction; patient subsequently increased to 1500mg and remains on treatment
  - No dose delays or discontinuations due to AST elevations
- No association of TEAEs with dose was observed

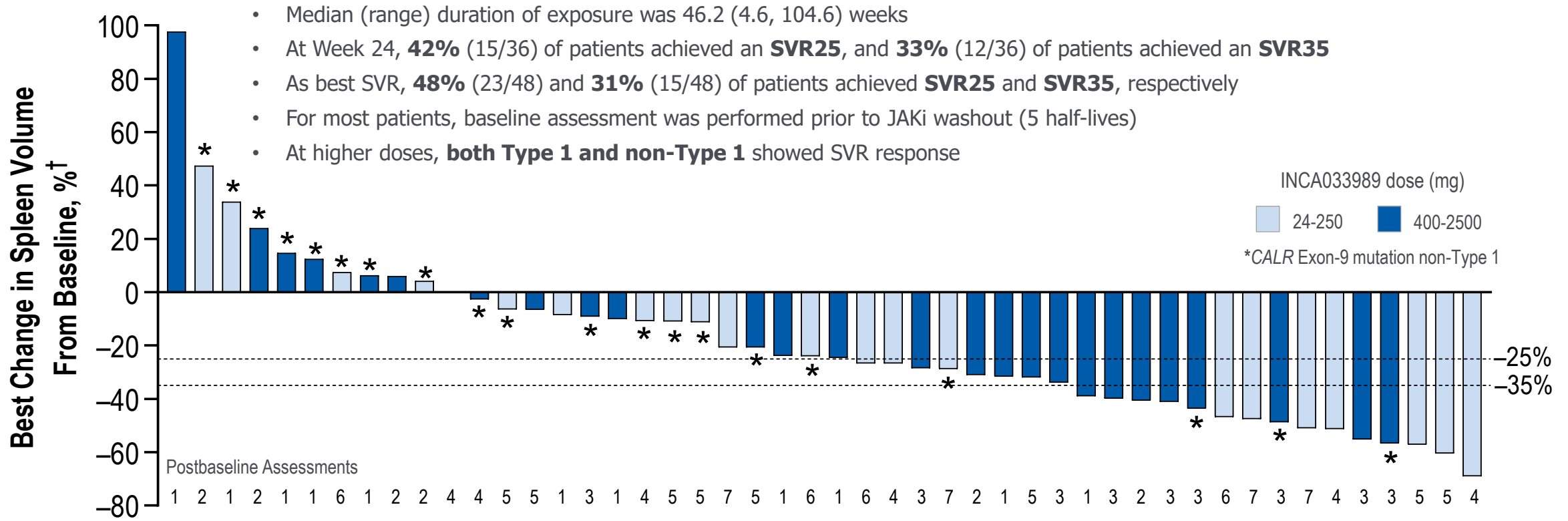
## Most Common TEAEs (≥15%)

	Any Grade	Grade 1	Grade 2	Grade ≥3 <sup>§</sup>
Anemia	16 (30.8)	7 (13.5)	5 (9.6)	4 (7.7)
Fatigue	14 (26.9)	9 (17.3)	5 (9.6)	0
Thrombocytopenia	13 (25.0)	7 (13.5)	2 (3.8)	4 (7.7) <sup>¶</sup>
Arthralgia	11 (21.2)	6 (11.5)	5 (9.6)	0
AST increased	11 (21.2)	8 (15.4)	2 (3.8)	1 (1.9)
Cough	11 (21.2)	9 (17.3)	2 (3.8)	0
Diarrhea	11 (21.2)	10 (19.2)	1 (1.9)	0
Headache	11 (21.2)	7 (13.5)	4 (7.7)	0
Leukopenia	11 (21.2)	1 (1.9)	6 (11.5)	4 (7.7) <sup>¶</sup>
Nausea	11 (21.2)	9 (17.3)	2 (3.8)	0
Pruritus	11 (21.2)	10 (19.2)	1 (1.9)	0
Hyperglycemia	10 (19.2)	6 (11.5)	3 (5.8)	1 (1.9)
Neutropenia	10 (19.2)	0	5 (9.6)	5 (9.6) <sup>¶</sup>
Nasal congestion	8 (15.4)	6 (11.5)	2 (3.8)	0
Pain in extremity	8 (15.4)	7 (13.5)	1 (1.9)	0



\*Abdominal pain and tendonitis (70 mg); MBL (progressed to MCL) and small intestinal obstruction (n=1; 400 mg); arthritis (n=1; 1500 mg); basal cell carcinoma (n=1; 100 mg); and pyrexia (n=1; 1500 mg). All serious TEAEs were considered unrelated to INCA033989, except tendonitis.  
<sup>†</sup>MBL (progressed to MCL; n=1; 400 mg) and neutropenia (n=1; 750 mg). <sup>‡</sup>AST increase (n=1) and thrombocytopenia (n=1). <sup>§</sup>Other grade ≥3 TEAEs: abdominal pain (n=2), dental caries, hypertension, joint effusion, lipase increased, MBL (progressed to MCL), edema peripheral, small intestinal obstruction, tendonitis, and viral upper respiratory tract infection (each n=1). <sup>¶</sup>Grade 4 (n=2). <sup>||</sup>Adverse event (n=2); lack of efficacy (n=2); physician decision (n=1); progressive disease (n=2).  
 ALT, alanine aminotransferase; AST, aspartate aminotransferase; MBL, monoclonal B-cell lymphocytosis; MCL, mantle cell lymphoma; n, number of individual patients.

# Clinically meaningful reductions in spleen volume observed



- Median (range) duration of exposure was 46.2 (4.6, 104.6) weeks
- At Week 24, **42%** (15/36) of patients achieved an **SVR25**, and **33%** (12/36) of patients achieved an **SVR35**
- As best SVR, **48%** (23/48) and **31%** (15/48) of patients achieved **SVR25** and **SVR35**, respectively
- For most patients, baseline assessment was performed prior to JAKi washout (5 half-lives)
- At higher doses, **both Type 1 and non-Type 1** showed SVR response

**SVR at Week 24 (N=36)**

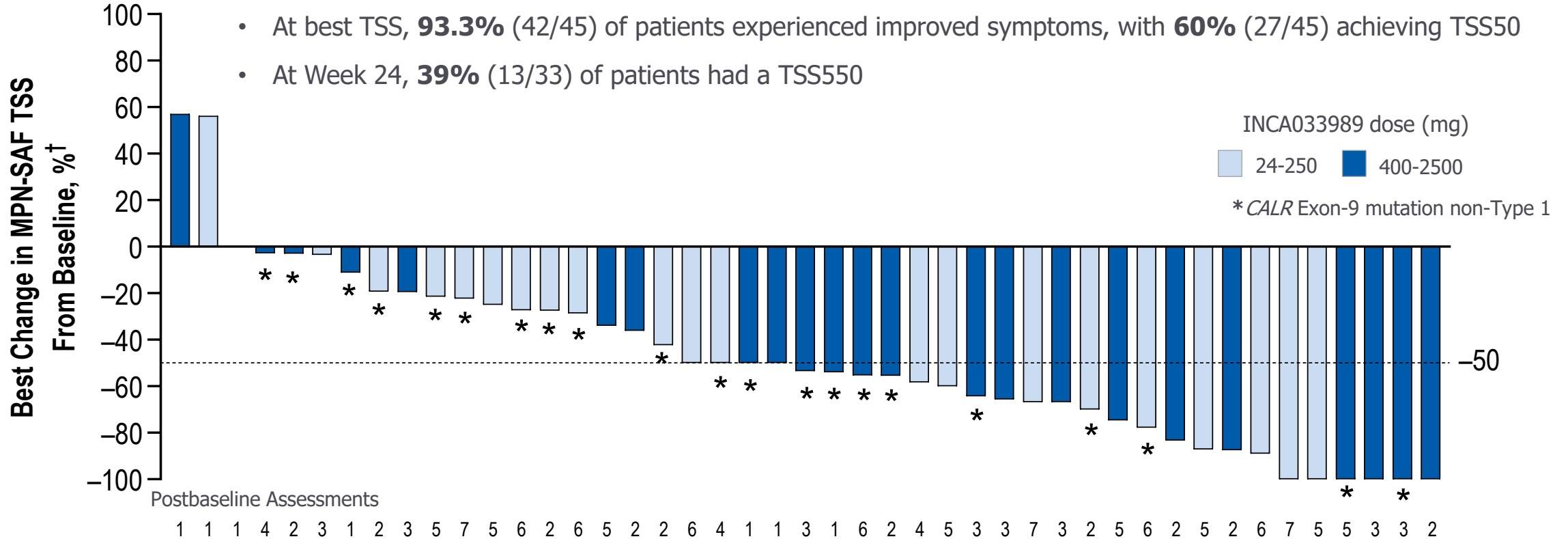
	Total	No Prior JAKi	R/R or Intolerant to JAKi <sup>‡</sup>
SVR25, % (n/N)	<b>41.7% (15/36)</b>	71.4% (5/7)	34.5% (10/29)
SVR35, % (n/N)	<b>33.3% (12/36)</b>	57.1% (4/7)	27.6% (8/29)



<sup>†</sup>N=48; 4 patients excluded due to lack of postbaseline assessments but remain on study. Postbaseline assessments performed every 12 weeks. <sup>‡</sup> R/R or intolerant to JAKi, including 7 patients with incomplete data (6 of 7 known prior JAKi treatment  $\geq 12$  weeks).  
 JAKi, Janus kinase inhibitor; R/R, relapsed/refractory; SVR25, spleen volume reduction  $\geq 25\%$ ; SVR35, spleen volume reduction  $\geq 35\%$ .

# Symptom benefit observed in vast majority of treated patients

- At best TSS, **93.3%** (42/45) of patients experienced improved symptoms, with **60%** (27/45) achieving TSS50
- At Week 24, **39%** (13/33) of patients had a TSS50



## TSS50 at Week 24 (N=33)

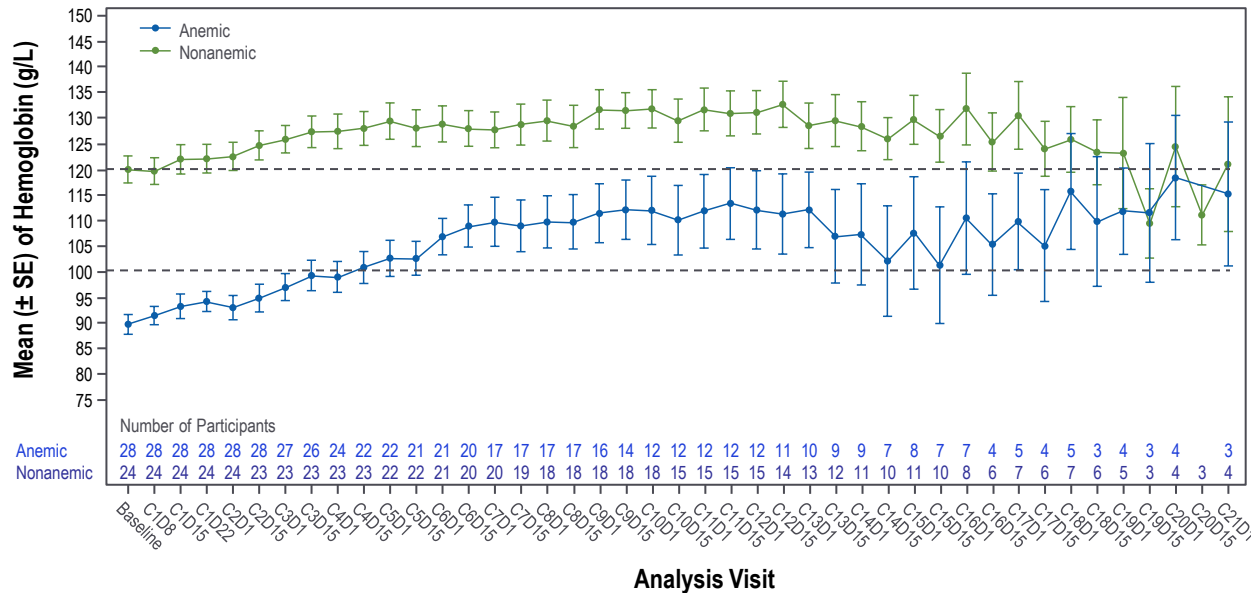
	Total	No Prior JAKi <sup>‡</sup>	R/R or Intolerant to JAKi <sup>§</sup>
TSS50, % (n/N)	<b>39.4% (13/33)</b>	60.0% (3/5)	35.7% (10/28)



<sup>†</sup>N=45; 7 patients excluded due to lack of postbaseline assessment. Postbaseline assessments performed every 12 weeks. <sup>§</sup> R/R or intolerant to JAKi, including 7 patients with incomplete data (6 of 7 known prior JAKi treatment  $\geq 12$  weeks).  
<sup>‡</sup>JAKi, Janus kinase inhibitor; MPN-SAF, Myeloproliferative Neoplasm-Symptom Assessment Form; R/R, relapsed/refractory; TSS, total symptom score; TSS50,  $\geq 50\%$  reduction in MPN-SAF TSS.

# Robust anemia improvements observed with 989 monotherapy

## Mean Hemoglobin During Study by Anemic Status\*



## Best Anemia Response in Evaluable Patients

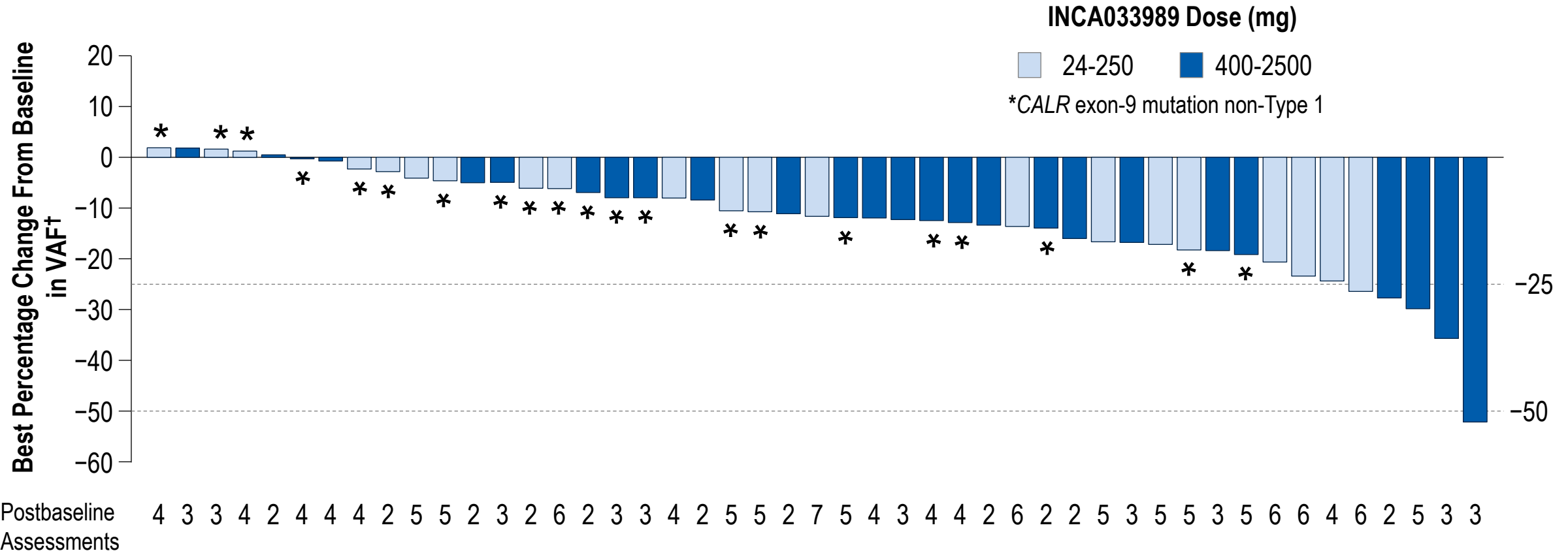
Variable	Total (N=25)	TDA (N=5)	Non-TDA (N=20)
Best anemia response, n (%)			
Major response	10 (40.0)	1 (20.0)	9 (45.0)
Minor response	4 (16.0)	2 (40.0)	2 (10.0)
Stable anemia	8 (32.0)	1 (20.0)	7 (35.0)
Progressive anemia	2 (8.0)	1 (20.0)	1 (5.0)
Missing <sup>†</sup>	1 (4.0)	0	1 (5.0)

- At baseline, median (range) hemoglobin among patients with anemia was 92 (70, 108) g/L
- **Anemia response occurred in 56%** of evaluable<sup>‡</sup> anemic patients, with most (40%) achieving a **major response**
- **Hemoglobin remained stable** in patients who were non-anemic at baseline



\*Criteria for baseline anemia and response based on Tefferi A. *Blood*. 2024;114:1813. Major anemia response for patients with TDA: no transfusions for 12 weeks and rolling 12-week average hemoglobin increase of  $\geq 1.5$  g/dL from pretreatment baseline. Major anemia response for patients with non-TDA: rolling 12-week average hemoglobin increase of  $\geq 1.5$  g/dL from pretreatment baseline (also requires no transfusions). Dotted lines indicate anemia threshold (100 g/L) and lower limit of normal (120 g/L). <sup>†</sup>Patient who terminated treatment before 12 weeks. <sup>‡</sup>3/28 anemic patients were not evaluable for response due to missing data at 12 weeks. TDA, transfusion-dependent anemia.

# Most patients experienced VAF reduction with monotherapy



- A **reduction in mutCALR VAF** from baseline occurred in **89.4%** (42/47) of patients with  $\geq 1$  postbaseline VAF measurement
  - 5/47 (10.6%) achieved  $\geq 25\%$  best reduction in VAF



\*N=47. 5 patients were excluded due to lack of postbaseline assessment. Postbaseline assessments performed C2D15, C4D1, and every 3 cycles thereafter.  
 C, cycle; D, day; MPN-SAF, Myeloproliferative Neoplasm-Symptom Assessment Form; mutCALR, mutations of calreticulin; TSS, total symptom score; VAF, variant allele frequency.

# Demographics and disease characteristics (combination)

Variable	INCA033989 + Ruxolitinib (N=20)
Median age (range), years	61.0 (38, 82)
Female, n (%)	4 (20.0)
Median time from initial diagnosis (range), years	3.1 (0.4, 16.4)
DIPSS risk status, n (%)	
Low risk	0
INT-1 risk	8 (40.0)
INT-2 risk	9 (45.0)
High risk	3 (15.0)
<i>CALR</i> exon 9 mutation type, n (%)	
Type 1	12 (60.0)
Type 2	7 (35.0)
Other	1 (5.0)
Median <i>CALR</i> VAF (range),* %	39 (30, 85)
Mean baseline ruxolitinib daily dose (range), mg	33.5 (10, 50)

Variable	INCA033989 + Ruxolitinib (N=20)
Median platelets (range), GI/L	229.5 (76, 506)
Median leukocytes (range), GI/L	10.6 (2.4, 85.0)
Median hemoglobin (range), g/dL	9.4 (7.2, 12.6)
Median MPN-SAF TSS (range)	15.5 (3, 56)
Median spleen volume (range), mL	2351 (848, 5338)
INCA033989 dose level, n (%)	
24 mg	N/A
50 mg	N/A
70 mg	3 (15.0)
100 mg	N/A
200 mg	N/A
250 mg	5 (25.0)
400 mg	N/A
750 mg	5 (25.0)
1500 mg	4 (20.0)
2500 mg	3 (15.0)



Data cutoff: September 25, 2025.

\*Measured centrally in peripheral blood by next-generation sequencing (INCA033989 + ruxolitinib, n=18).

*CALR*, calreticulin; DIPSS, Dynamic International Prognostic Scoring System; INT, intermediate; JAKi, Janus kinase inhibitor; MPN-SAF, Myeloproliferative Neoplasms Symptom Assessment Form; N/A, not applicable; TSS, total symptom score; VAF, variant allele frequency.

# 989 is well tolerated in combination with ruxolitinib in patients with MF

## Summary of TEAEs

TEAE, n (%)	INCA033989 N=20
Any TEAE	20 (100.0)
Treatment-related*	13 (65.0)
Grade ≥3	11 (55.0)
Serious	5 (25.0) <sup>†</sup>
Fatal	0
Discontinuation* due to TEAEs	2 (10.0) <sup>‡</sup>
Dose reduction* due to TEAEs	1 (5.0)
Infusion interruption* due to TEAEs	1 (5.0)
Dose delay* due to TEAEs	8 (40.0)
Dose-limiting toxicity	0

## Most Common TEAEs (≥15%)

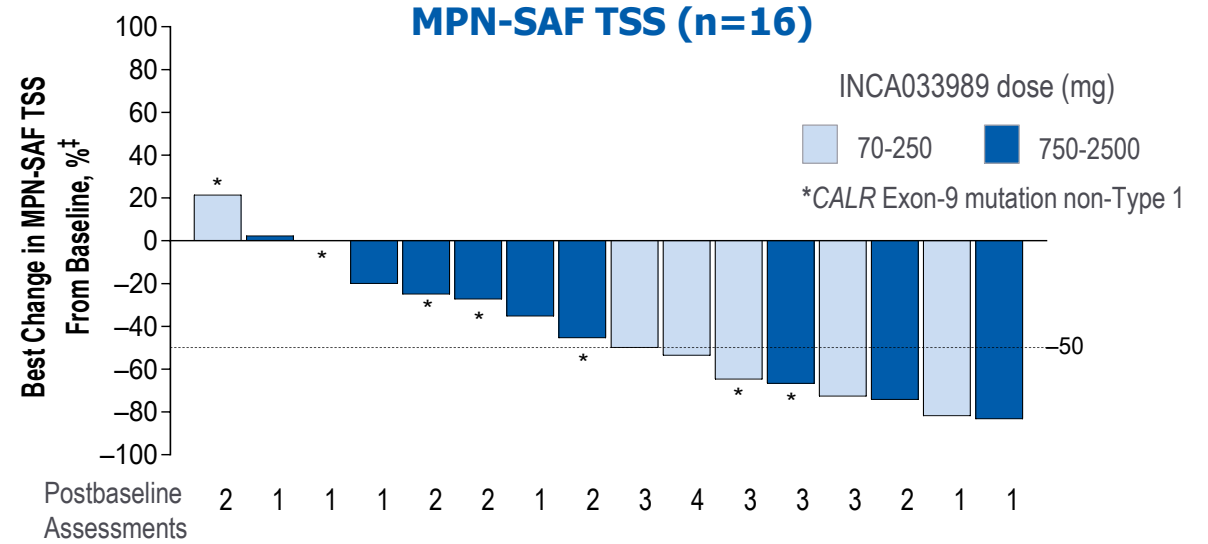
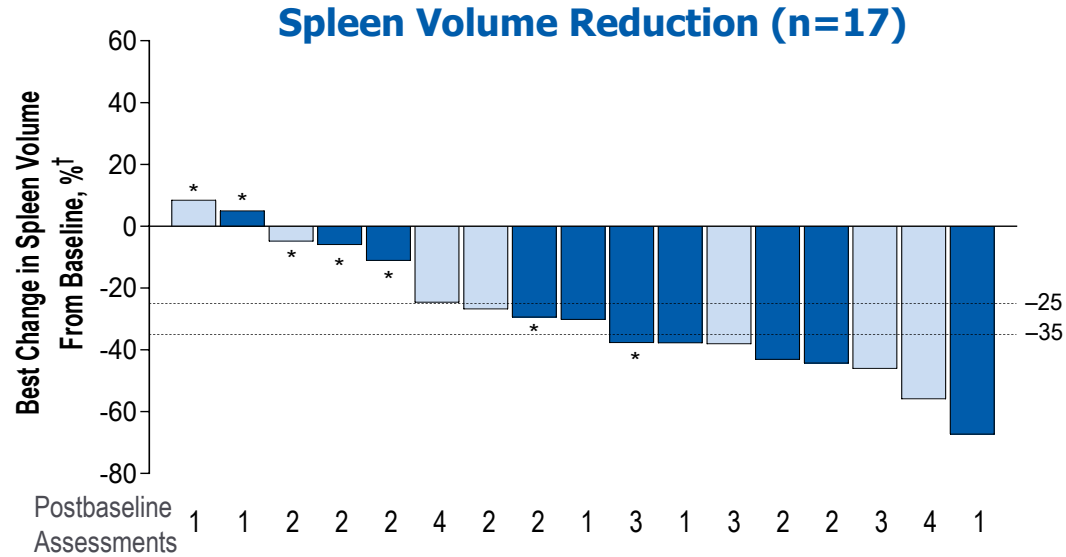
TEAE, <sup>¶¶</sup> n (%)	Any Grade	Grade 1	Grade 2	Grade ≥3 <sup>§</sup>
Anemia	9 (45.0)	2 (10.0)	1 (5.0)	6 (30.0) <sup>¶</sup>
Thrombocytopenia	7 (35.0)	3 (15.0)	2 (10.0)	2 (10.0)
ALT increased	4 (20.0)	2 (10.0)	2 (10.0)	0
Diarrhea	4 (20.0)	4 (20.0)	0	0
Fatigue	4 (20.0)	4 (20.0)	0	0
AST increased	3 (15.0)	2 (10.0)	1 (5.0)	0
Cough	3 (15.0)	1 (5.0)	2 (10.0)	0

- Overall, **85%** (n=17) patients were **still receiving treatment** and 15% (n=3) discontinued treatment at the time of data cutoff<sup>||</sup>
- **No dose-limiting toxicities** were observed; the maximum tolerated dose was not reached (dose range 70-2500 mg)
- Four patients experienced increased AST and/or ALT; all events were Grade 1 or 2; 2 (Grade 1) events ongoing at the time of data cut

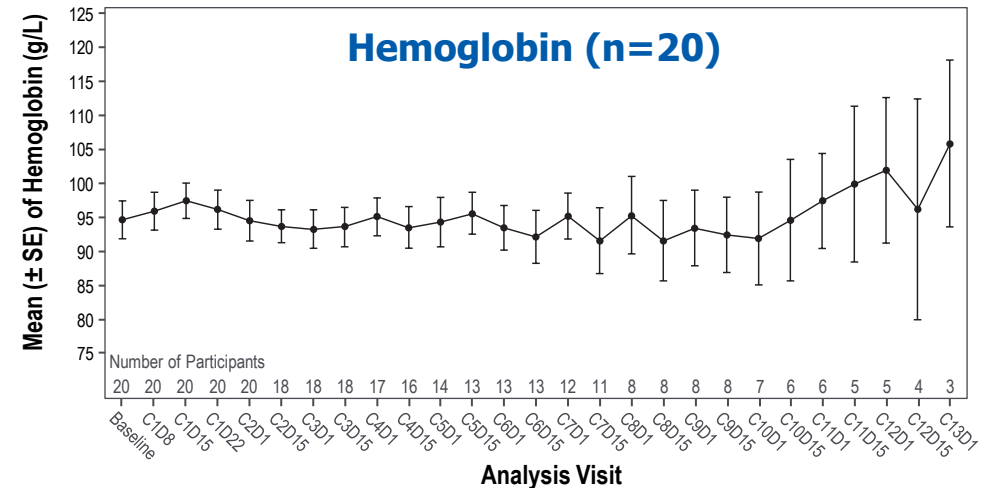


\*Related to INCA033989. <sup>†</sup>Acute myocardial infarction (n=1; 750 mg); anemia (n=1; 1500 mg); basal cell carcinoma (n=1; 250 mg); diffuse large B-cell lymphoma (n=1; 70 mg); stomatitis (n=1; 750 mg). <sup>‡</sup>Anemia (n=1; 250 mg); diffuse large B-cell lymphoma (n=1; 70 mg). <sup>§</sup>Other grade ≥3 TEAEs: neutropenia (n=2), abscess limb, acute myocardial infarction, diffuse large B-cell lymphoma, obstructive sleep apnea syndrome, and stomatitis (each n=1). <sup>¶</sup>Grade 4 (n=1). <sup>¶¶</sup>Adverse event (n=2); physician decision (n=1). <sup>||</sup>Patients were counted once under the highest grade.  
ALT, alanine aminotransferase; AST, aspartate aminotransferase; MF, myelofibrosis; n, number of individual patients; TEAE, treatment-emergent adverse event.

# Most patients experienced spleen volume reductions and symptom improvements with 989 + ruxolitinib



- As best SVR, **65%** (11/17) achieved an **SVR25**, and **47%** (8/17) of patients achieved an **SVR35**
- At Week 24, **50%** (6/12) and **25%** (3/12) had an **SVR25** and **SVR35**, respectively
- **81%** (13/16) of patients experienced symptom improvement, with **33%** (3/9)<sup>§</sup> achieving **TSS50** at week 24
- Among 14 evaluable patients,<sup>¶</sup> **86%** had **stable anemia** during the study (TDA, n=1; non-TDA, n=11); 1 patient (non-TDA) had a major anemia response<sup>1</sup>



1. Tefferi A. *Blood*. 2024;114:1813.

†N=17; 3 patients excluded due to lack of postbaseline assessment but remain on study. ‡N=16; 4 patients excluded due to lack of baseline or postbaseline assessment but remain on study. §Patients with available percentage change in MPN-SAF TSS at week 24 compared with baseline. ¶4 patients were excluded as they were not anemic at baseline or had not been treated for 12 weeks.

C, cycle; D, day; MPN-SAF, Myeloproliferative Neoplasm-Symptom Assessment Form; SE, standard error; SVR25, spleen volume reduction  $\geq 25\%$ ; SVR35, spleen volume reduction  $\geq 35\%$ ; TDA, transfusion-dependent anemia; TSS, total symptom score; TSS50,  $\geq 50\%$  reduction in MPN-SAF TSS.

# Conclusions

- INCA033989 was **well tolerated**, both as monotherapy and in combination with ruxolitinib, in patients with MF who were resistant/intolerant to prior JAKi therapy or ineligible for JAKi treatment
  - **No dose-limiting toxicities** were observed, and a maximum tolerated dose was not reached
  - **87%** of patients remain on INCA033989 monotherapy and **85%** of patients remain on INCA033989 + ruxolitinib
- Rapid and **robust spleen and anemia responses**, as well as **symptom improvements**, occurred in both cohorts despite advanced disease and limited follow-up
- At higher doses, reductions in spleen volume, improvement in symptoms, and anemia response seen among both **Type 1 and non-Type 1 patients**
- **mutCALR VAF reduction** was observed in the majority of patients
- These data demonstrate a **clear and robust proof of concept** in MF that will enable pivotal registration studies in the near future



# Molecular characterization of patients with myelofibrosis and essential thrombocythemia treated with INCA033989

**Bethan Psaila, MD, PhD**  
University of Oxford



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# Myeloproliferative Neoplasms are clonal disorders and *CALR* mutations are frequent in ET and MF

- 25%-35% of patients with ET and MF have a *CALR* mutation<sup>1</sup>
  - **mut*CALR* Type-1** is the **most common** mutation (50-70%)<sup>1,2</sup>
- All mutations result in aberrant expression of **mut*CALR*\*** on the cell surface in complex with TPO receptors (TPO-R)<sup>3-7</sup>
  - Activates the JAK/STAT pathway
- **INCA033989 is a first-in-class antagonist antibody inhibiting mut*CALR***
  - INCA033989 is a novel, fully human, high-affinity, Fc-silenced, IgG1 monoclonal antibody that selectively targets mut*CALR* in complex with thrombopoietin receptor to inhibit oncogenic signaling and proliferation of cells<sup>8</sup>

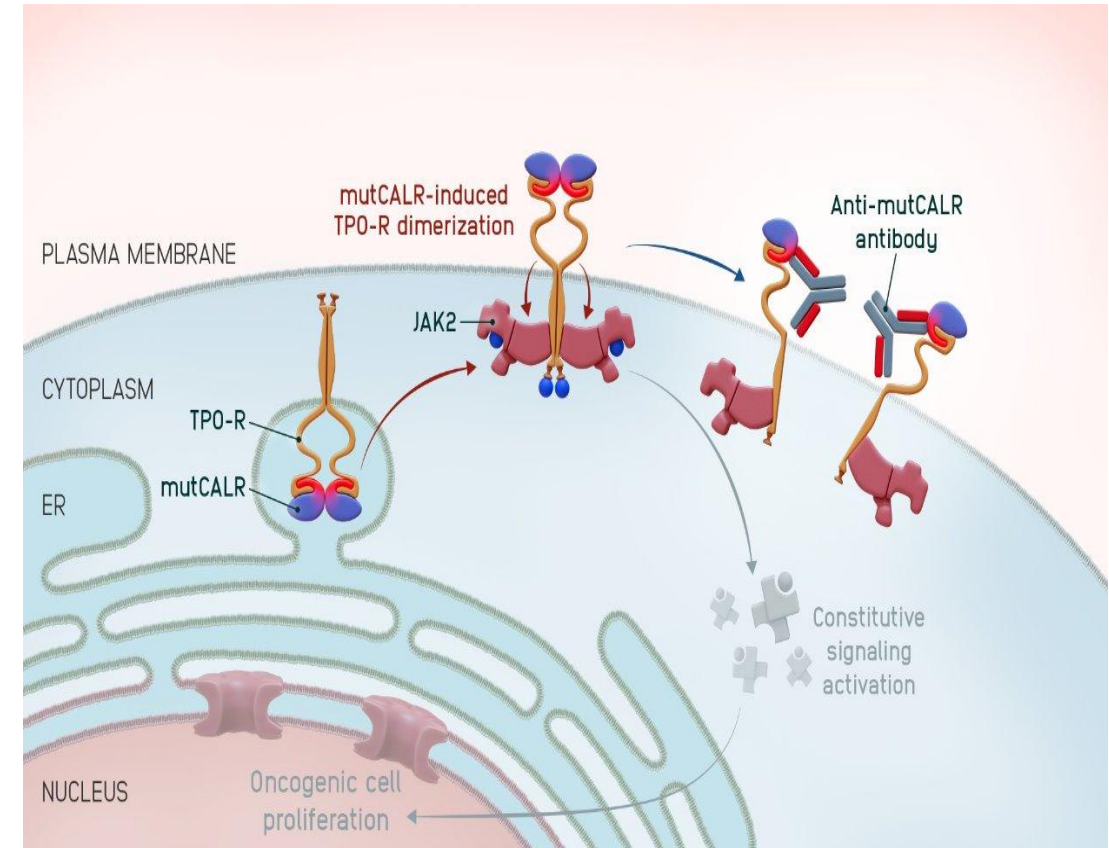


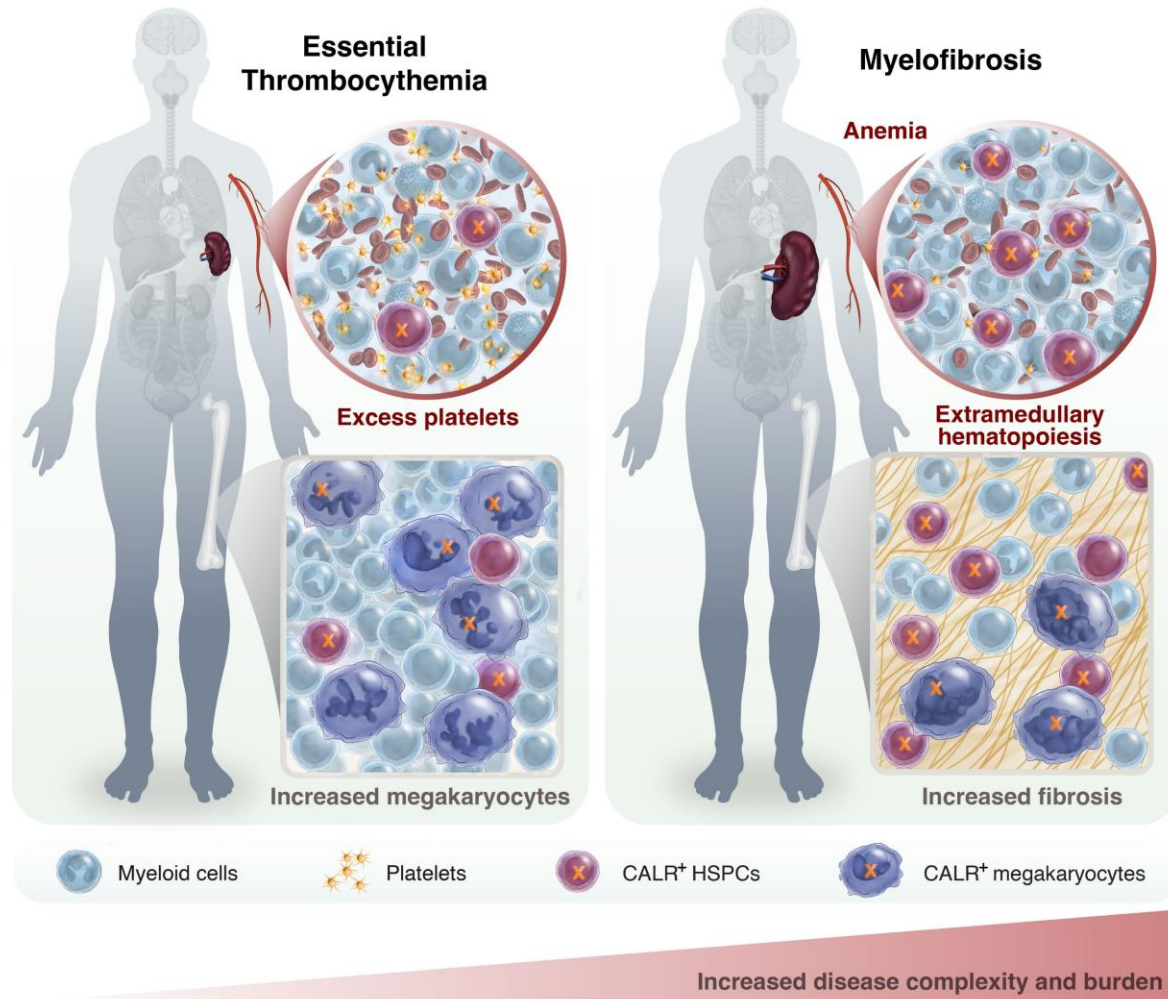
Figure reprinted from Reis E, et al. *Blood*. 2024;144:2336-2348 [visual abstract] with permission from Elsevier Inc. Copyright © 2024 American Society of Hematology.



\*mut*CALR*: *CALR* exon 9 frameshift mutations. †NCT05936359 (outside the US). ‡NCT06034002 (US only).

1. Klampfl T, et al. *N Engl J Med*. 2013;369:2379-2390; 2. Cabagnols et al. *Blood*. 2014;124:1823. 3. Chachoua I, et al. *Blood*. 2016;127:1325-1335; 4. Elf S, et al. *Cancer Discov*. 2016;6:367-381; 5. Elf S, et al. *Blood*. 2018;131:782-786; 6. Papadopoulos N, et al. *Nat Commun*. 2023;14:1881; 7. Pecquet C et al. *Blood*. 2019;133:2669-2681; 7. Reis, et al. *Blood*. 2024;22:2336-2348.  
ET, essential thrombocythemia; MF, myelofibrosis; MPN, myeloproliferative neoplasms.

# ET and MF share common oncogenic drivers but differ in pathophysiology, genomic complexity, and disease burden



**INCA033989-101/102 Studies**  
Higher *CALR* VAF in MF vs ET at enrollment\*

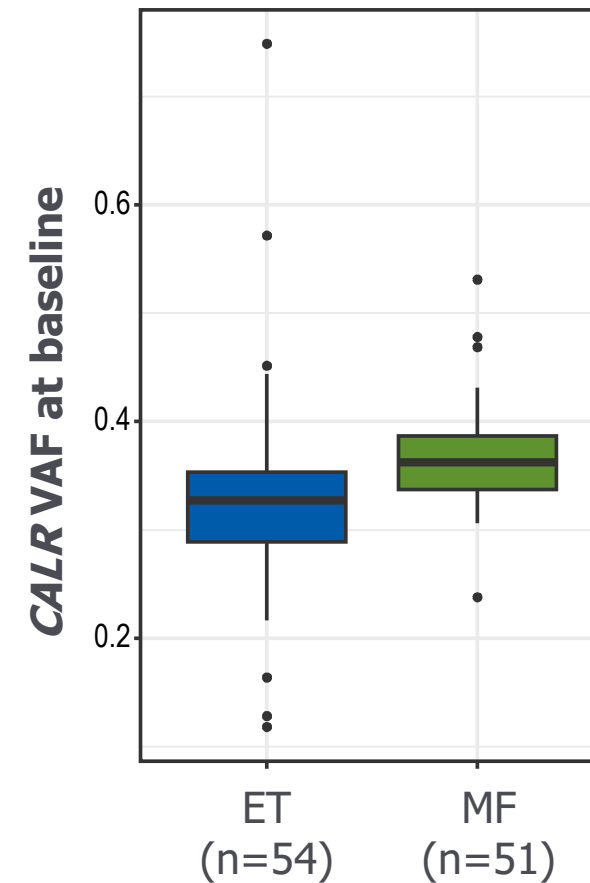
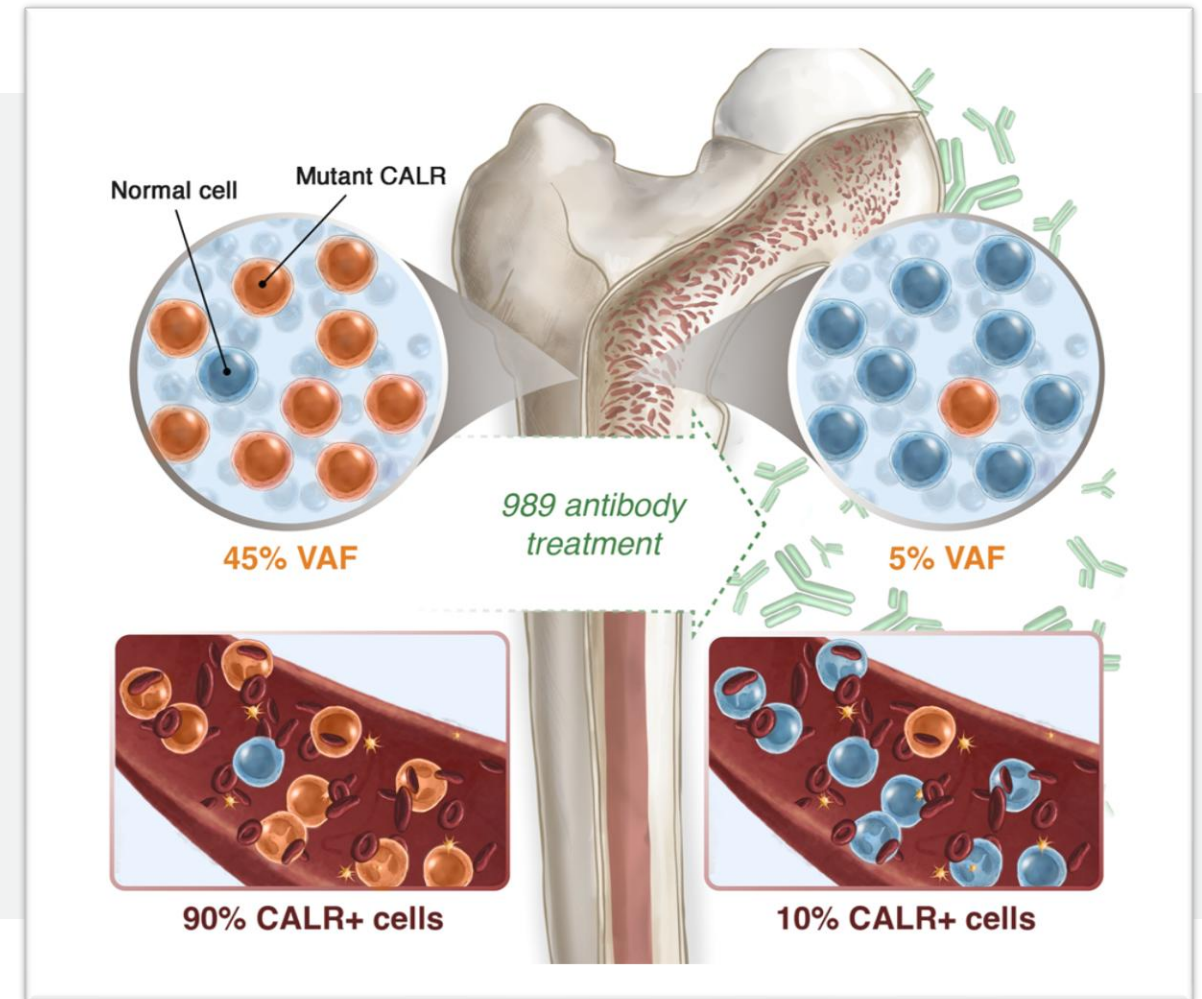


Illustration by DrawImpacts.

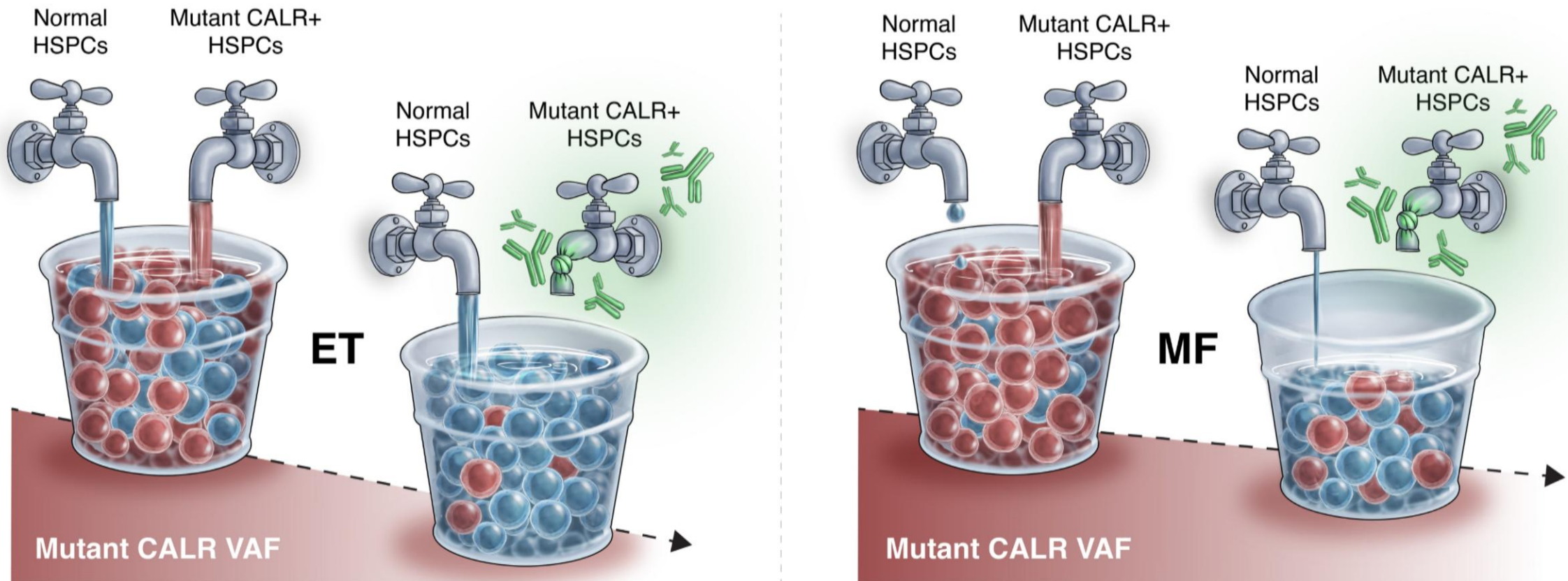
\*Genomic data presented are from all ET and MF monotherapy patients with peripheral blood samples at screening measured by next-generation sequencing. *CALR*, calreticulin; ET, essential thrombocythemia; MF, myelofibrosis; VAF, variant allele frequency.

# CALR mutant patients are nearly all heterozygous – relating VAF to mutCALR positive cells

- **High burden** of CALR mutant cells in many MPN patients
  - 45% VAF relates to 90% of all hematopoietic cells being mutCALR positive
- Even **small mutCALR VAF reductions matter**
  - 5% reduction in VAF = 10% reduction in CALR+ (mutant) cells



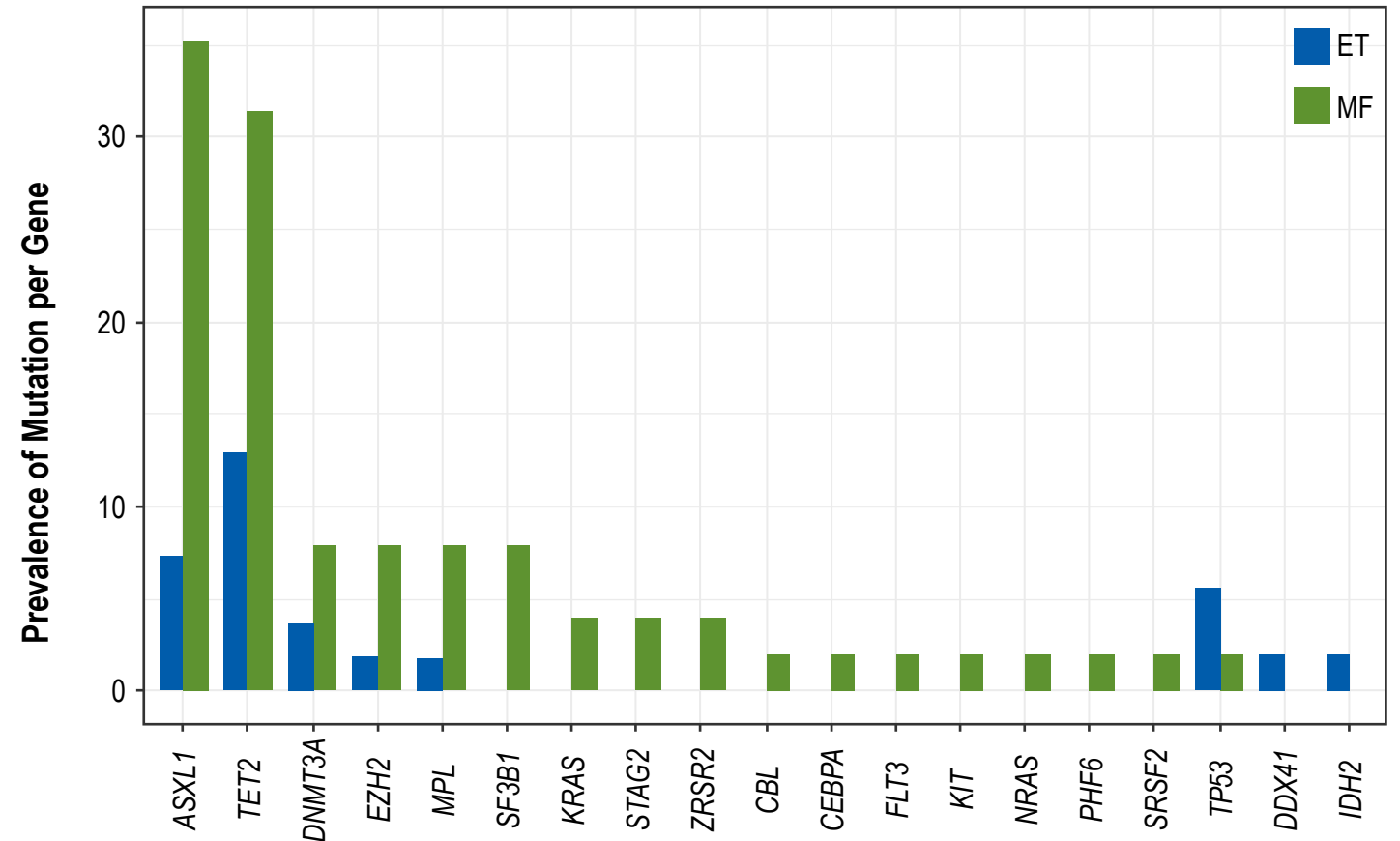
# Whole blood VAF is expected to reduce slower in MF vs ET



# Patients with MF have greater clonal complexity at baseline compared with ET

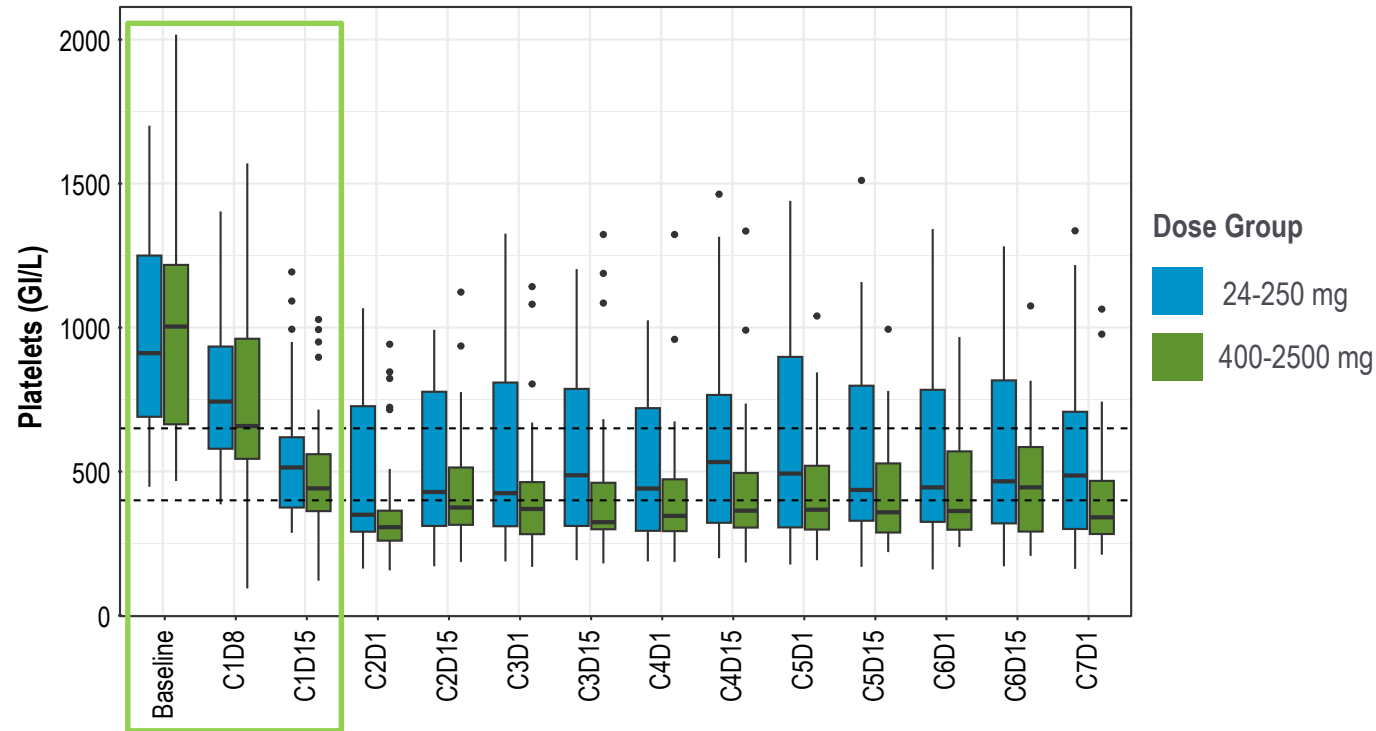
Prevalence of Co-occurring Mutations in Patients with ET and MF

- **Co-occurring mutations correlate with disease severity and progression** in patients with ET and MF<sup>1,2</sup>
- Most patients with **MF** had a co-occurring mutation (**76.5%**), compared with **32%** of patients with **ET** (37 gene panel\*)

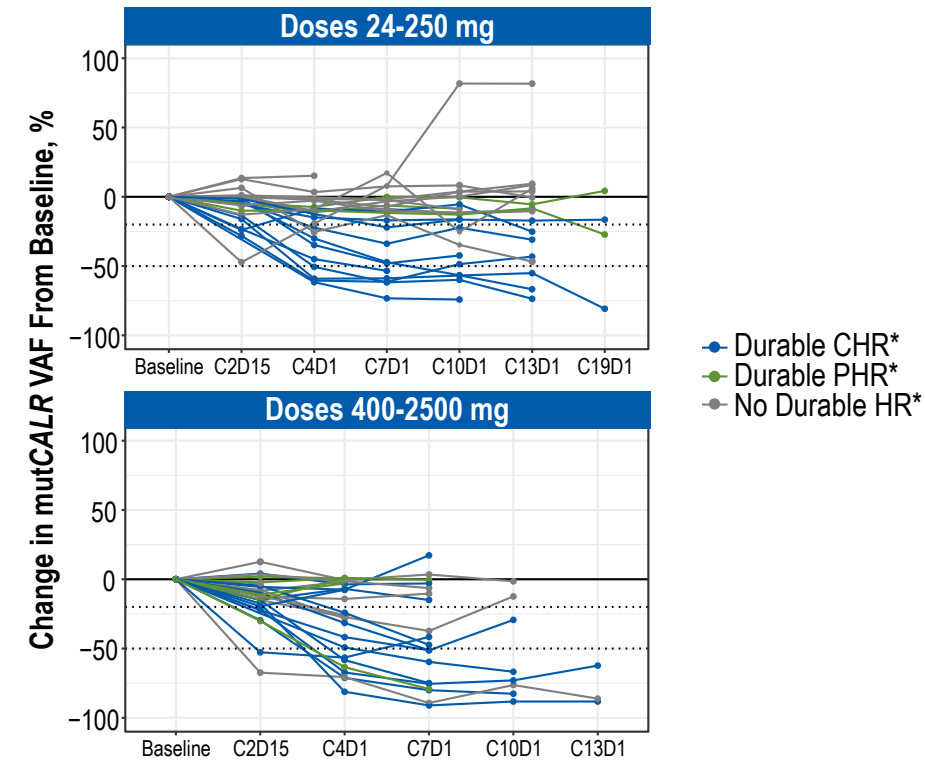


# Patients with ET treated with 989 achieve rapid and durable platelet normalization with correlated VAF reductions

Durable Platelet Reduction (n=55)



mutCALR VAF Reduction (n=52<sup>†</sup>)



- Deeper and more consistent responses are observed with higher doses of INCA033989



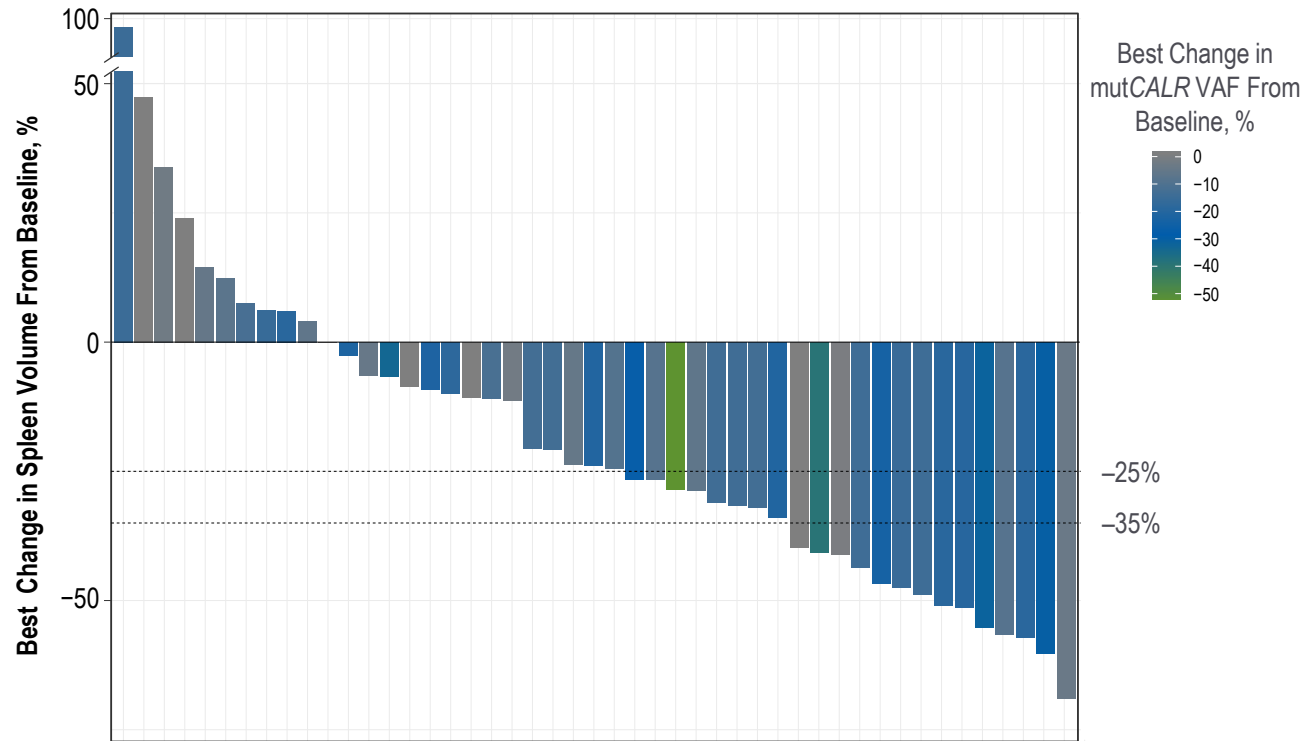
\*CHR defined as platelet count  $\leq 400 \times 10^9/L$  and leukocytes  $< 10 \times 10^9/L$ , PHR defined as platelet count  $\leq 600 \times 10^9/L$  and leukocytes  $< 10 \times 10^9/L$  (baseline platelet count  $> 600 \times 10^9/L$ ). Durable response defined as maintaining for at least 12 weeks.

<sup>†</sup>3 patients were excluded due to lack of postbaseline VAF assessment.

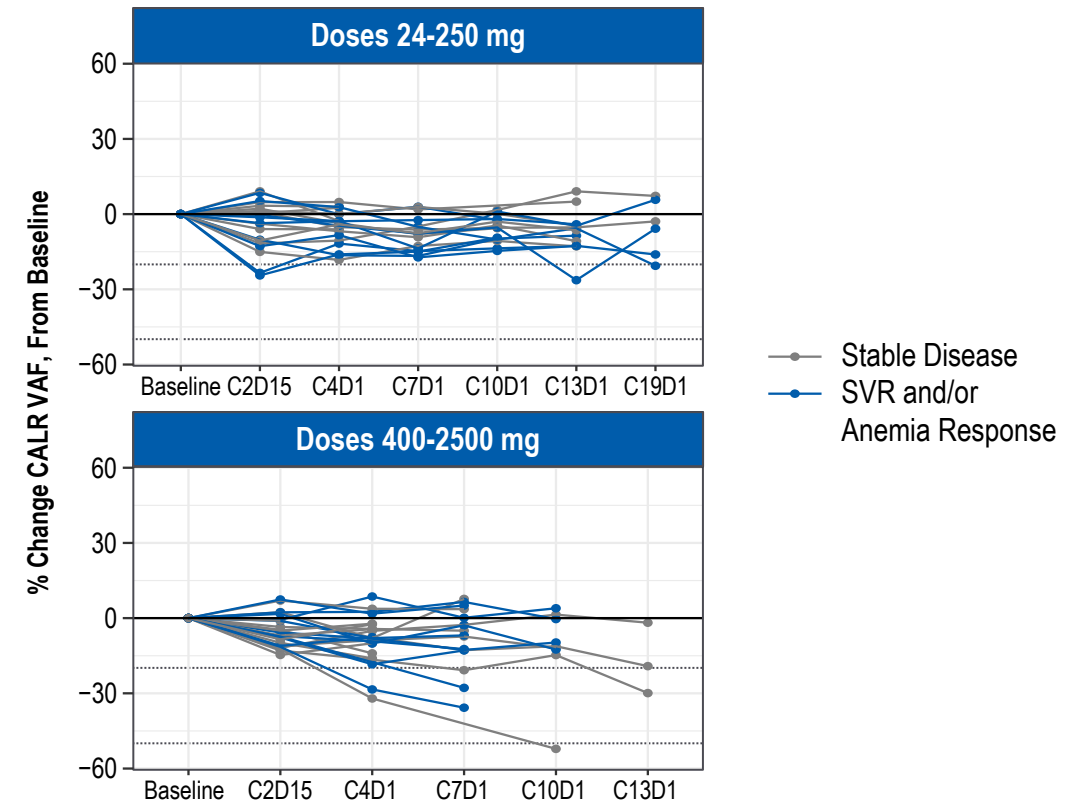
CHR, complete hematologic response; ET, essential thrombocythemia; HR, hematologic response; PHR, partial hematologic response; VAF, variant allele frequency.

# Patients with MF treated with 989 achieve rapid spleen reductions with deeper VAF reductions at higher doses

Spleen Volume Reduction vs Molecular Response\*



Percentage Change in mutCALR VAF From Baseline\*

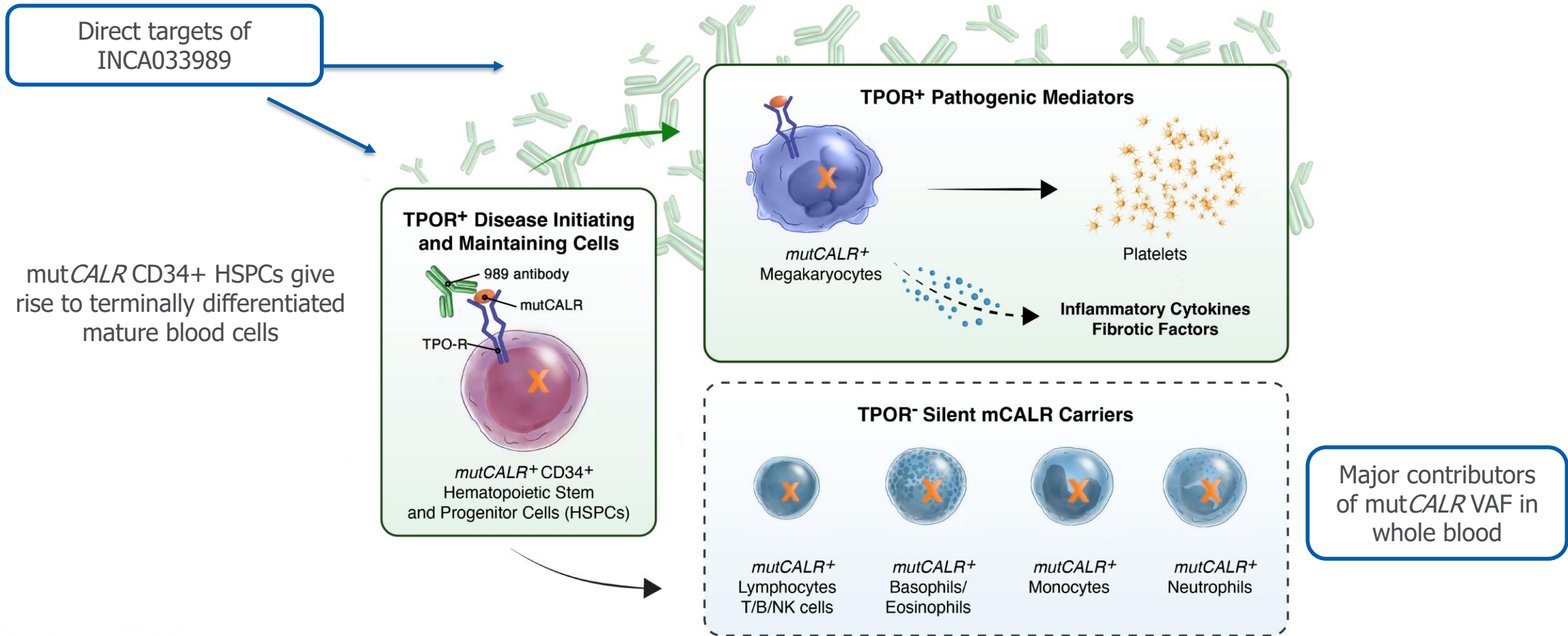


- For all patients with MF with SV measurement (n=48), 23 (47.9%) patients had SVR25, and 15 (31.3%) patients had SVR35
- For patients with  $\geq 1$  postbaseline VAF measurement (n=47), 42/47 (89.4%) had a reduction in mutCALR VAF
- Deeper reductions in VAF were observed with higher doses and SVR responses



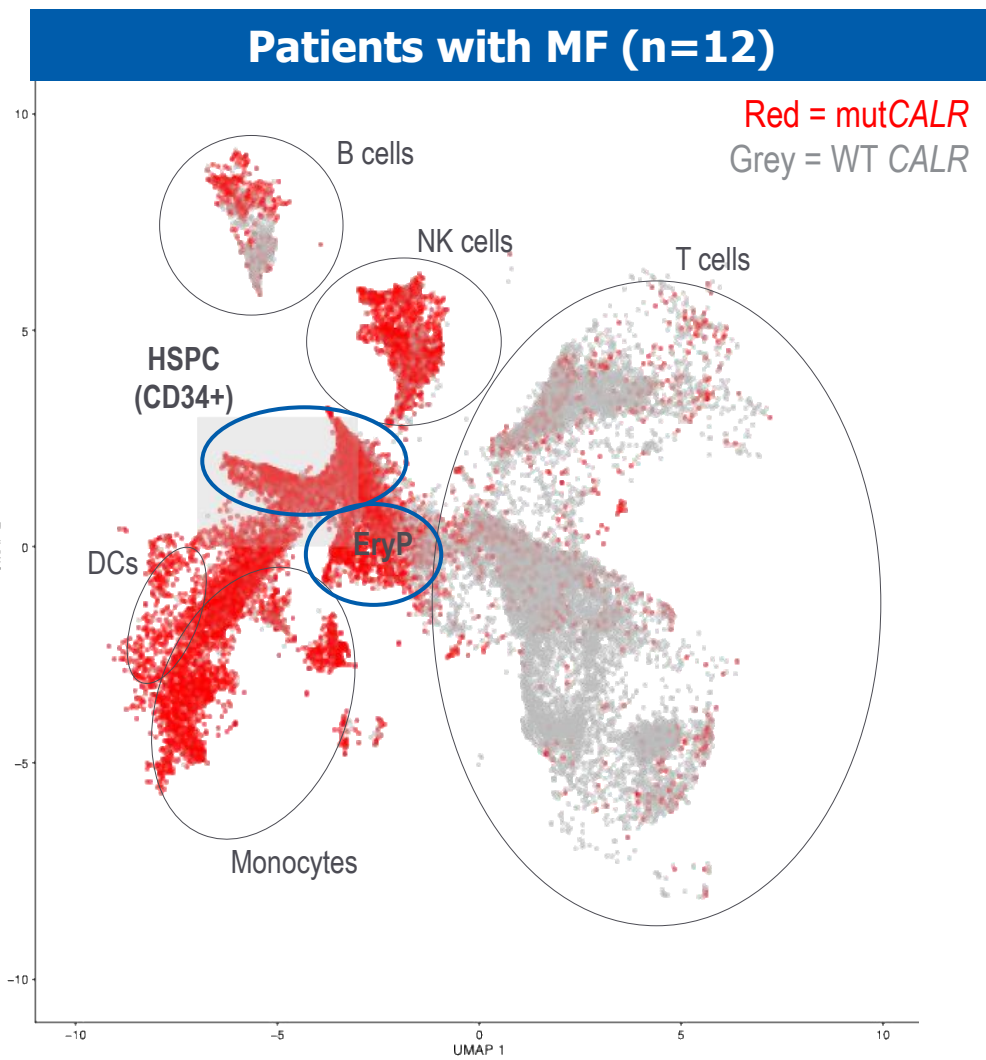
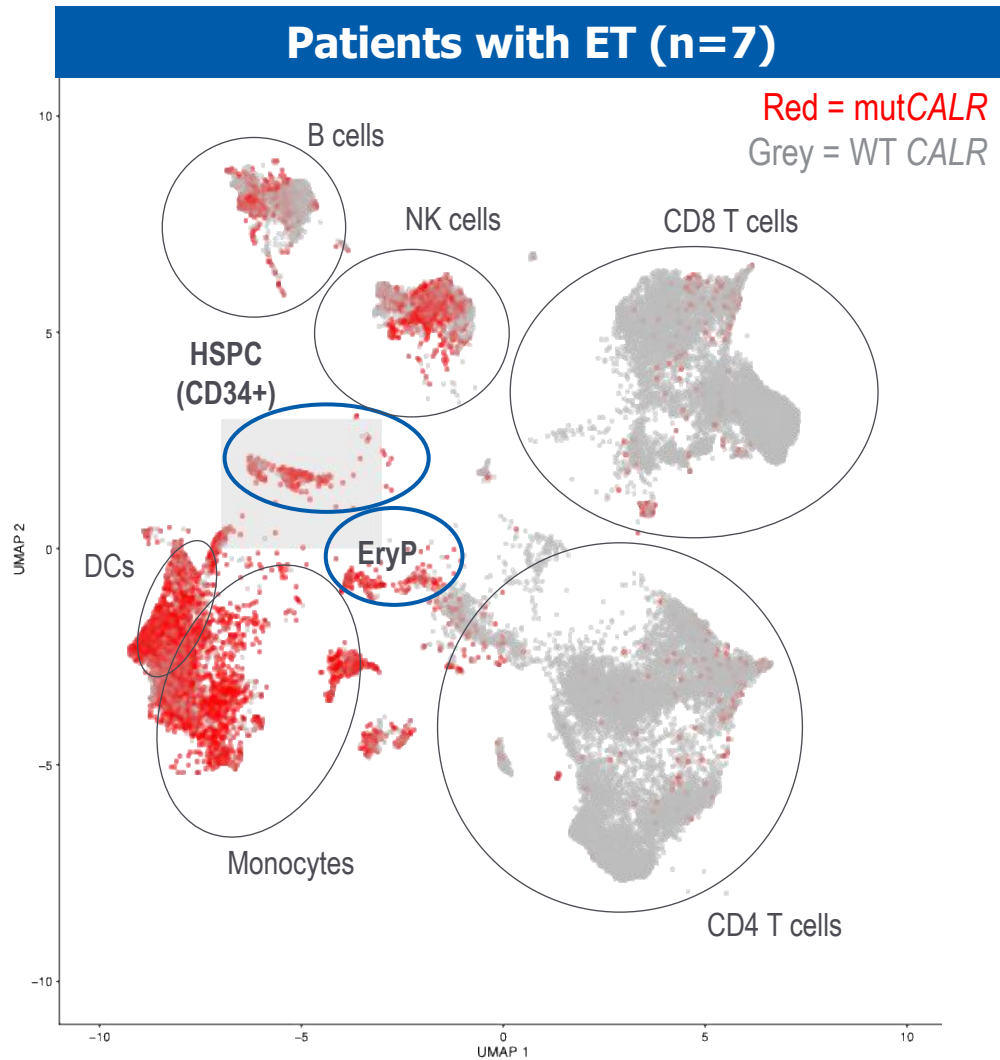
\*Data include only monotherapy MF patients with both a spleen volume and post-treatment VAF measurements (n=47). SVR25, spleen volume reduction  $\geq 25\%$ ; SVR35, spleen volume reduction  $\geq 35\%$ ; VAF, variant allele frequency.

# 989 targets disease-initiating and -maintaining cells including hematopoietic stem/progenitor cells (HSPCs) and megakaryocytes



# Single-cell immunophenotyping and genotyping demonstrates differential complexity of mut*CALR*+ cells in PBMCs from patients with ET & MF

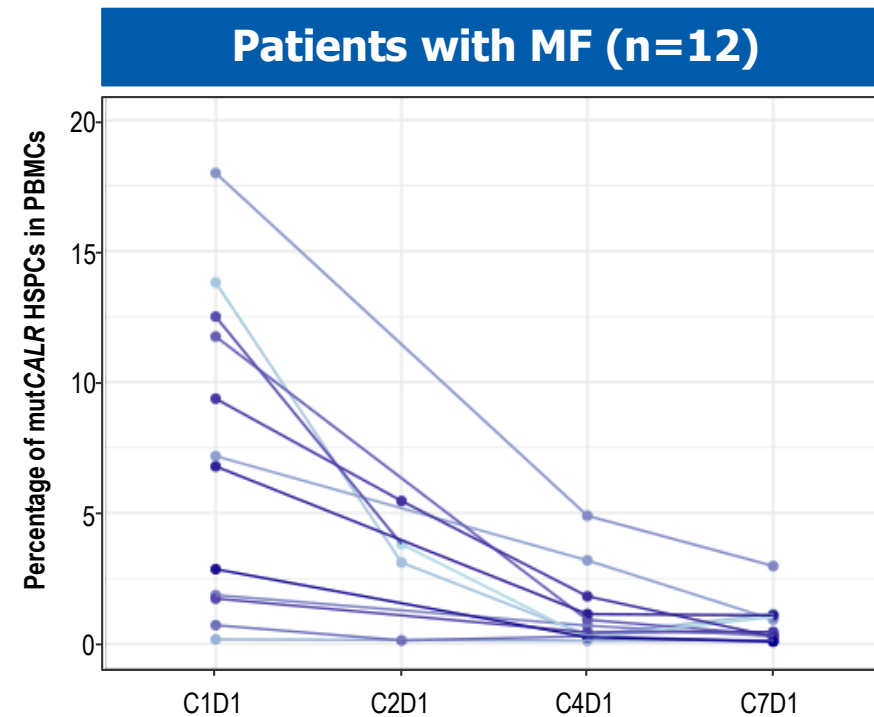
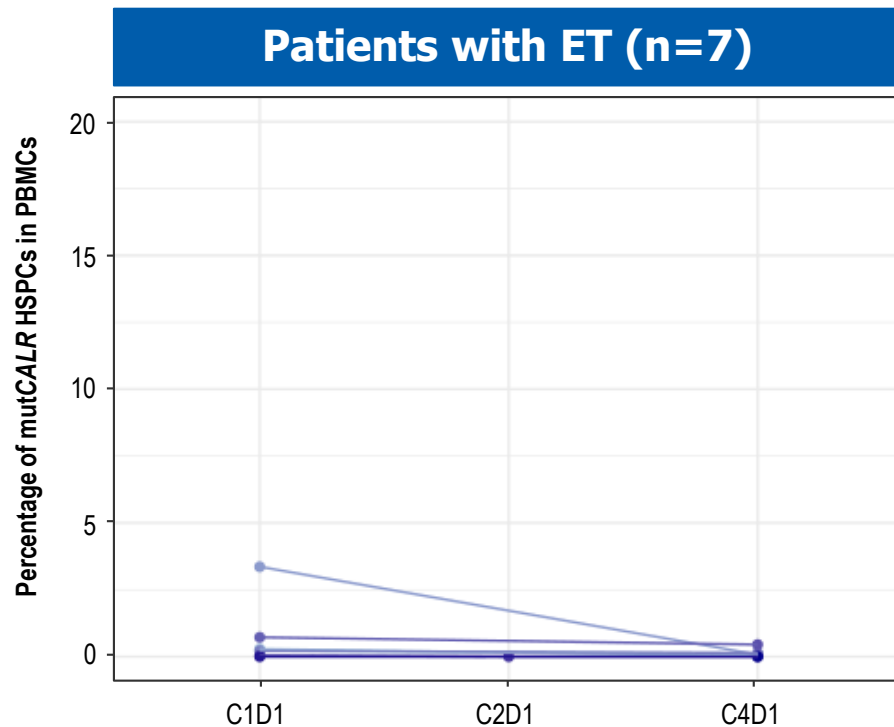
- mut*CALR* PBMCs ranged from 9%-45% at baseline in patients with ET
- mut*CALR* PBMCs ranged from 28%-62% at baseline in patients with MF
- Circulating HSPCs (CD34+) and progenitor cells were prominently detected in patients with MF



Single-cell DNA sequencing: Presented scDNAseq data are from available dose escalation patient samples: ET (n=7, 70-750mg), MF (n=12, 50-1500mg). Cells were clustered and visualized using a UMAP based on cell surface expression of 46 proteins. *CALR*, calreticulin; EryP, Erythroid Progenitor Cells (CD71); HSPCs, hematopoietic stem/progenitor cells (CD34-high); mut*CALR*, mutations in calreticulin; NK, natural killer; PBMC, peripheral blood mononuclear cells; UMAP, uniform manifold approximation and projection.

# 989 treatment significantly eliminates disease-initiating and -maintaining CD34+ HSPCs in PBMCs from patients with ET or MF

## Single-cell Data: mut*CALR* HSPCs (CD34+)



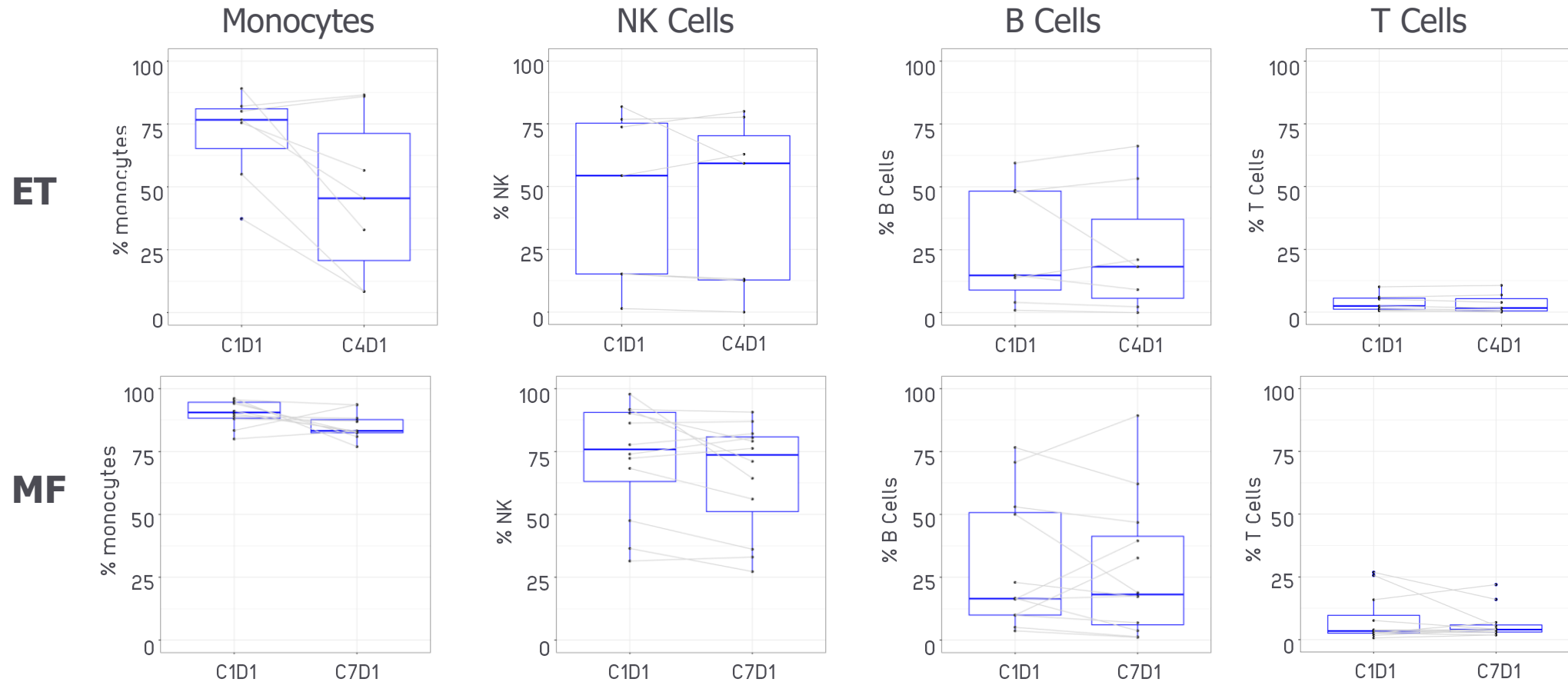
- High levels of **mut*CALR* HSPCs** (CD34+) are **decreased** with INCA033989 treatment in patients with MF
  - Lower levels of mut*CALR* HSPCs in PBMCs from patients with ET are also decreased



Single-cell DNA sequencing (MissionBio™): Presented scDNAseq data is from available dose escalation patient samples: ET (n=7, 70-750mg), MF (n=12, 50-1500mg). C, cycle; *CALR*, calreticulin; D, day; ET, essential thrombocythemia; HSPC, hematopoietic stem and progenitor cells; MF, myelofibrosis; PBMC, peripheral blood mononuclear cells.

# Single-cell analyses of MF and ET samples indicate minimal reduction in mut*CALR*<sup>+</sup> TPO-R<sup>-</sup> cells at early time points

## Percentage of mut*CALR* Carrier Cells



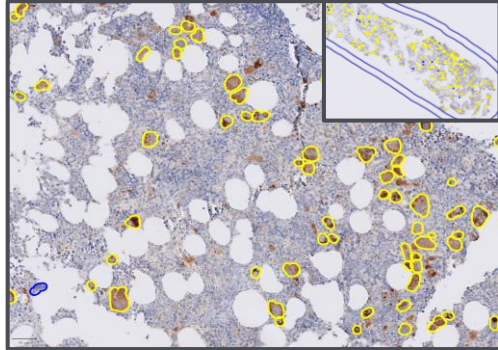
- The percentage of mut*CALR*<sup>+</sup> lymphocytes are relatively unchanged
- Among mut*CALR* carrier cells, the percentage of mut*CALR*<sup>+</sup> monocytes are consistently but modestly decreased



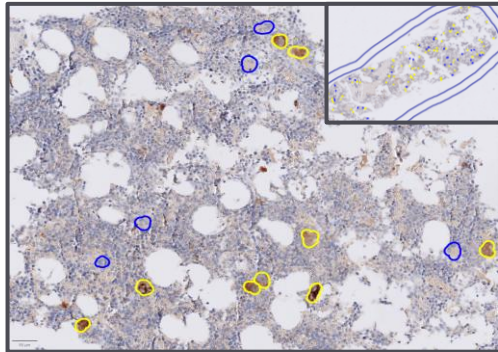
# Treatment with 989 rapidly decreases mutCALR<sup>+</sup> megakaryocytes in bone marrow samples from patients with ET and MF

MK Staining by mutCALR-IHC (ET)

Screening



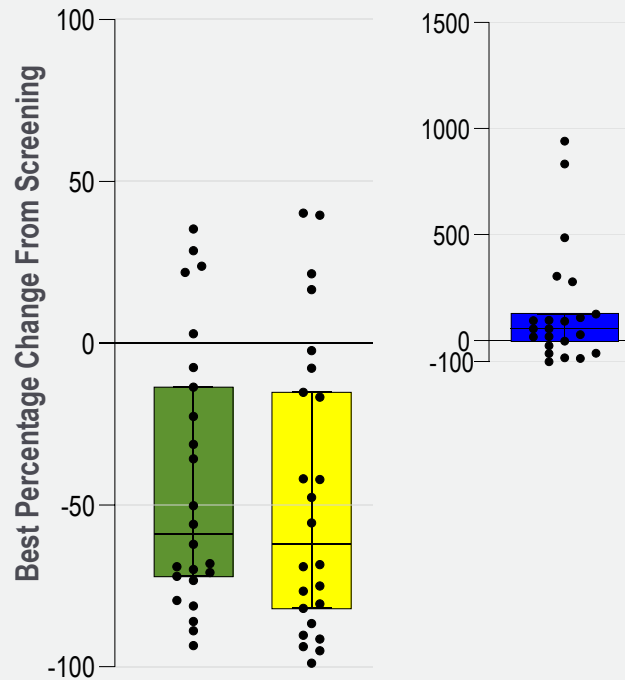
C7D1



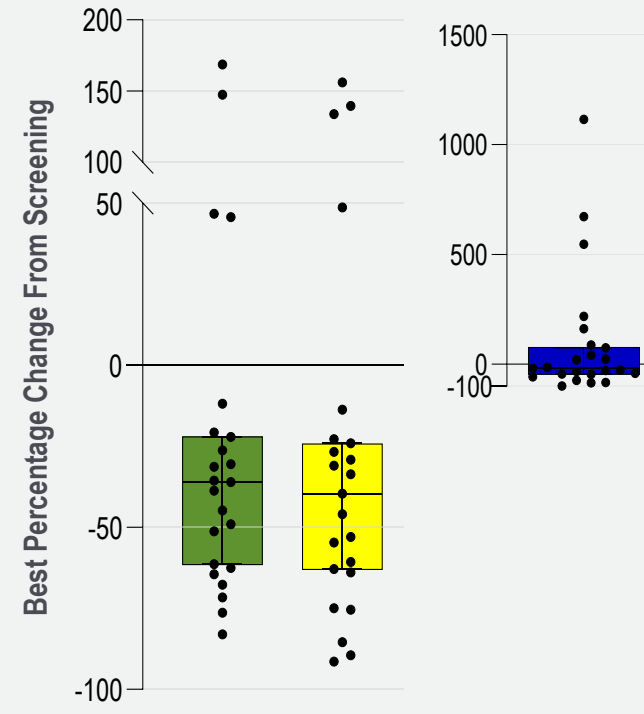
mutCALR<sup>+</sup> MK    mutCALR<sup>-</sup> MK\*

Best Percent Change from Screening in Total, mutCALR<sup>+</sup>, and mutCALR<sup>-</sup> MKs

Patients with ET (n=24)

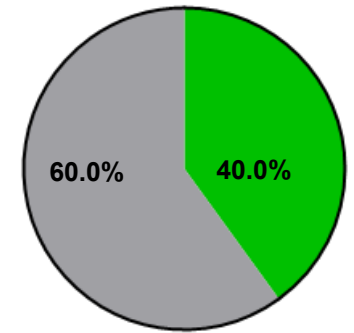


Patients with MF (n=23)\*



Total MKs    mutCALR<sup>+</sup> MKs    mutCALR<sup>-</sup> MKs

Fibrosis Grade<sup>†</sup> (n=30)



Improved  
Unchanged

- Reductions in total and mutCALR<sup>+</sup> MKs is accompanied by an increase in wild-type (mutCALR<sup>-</sup>) MKs



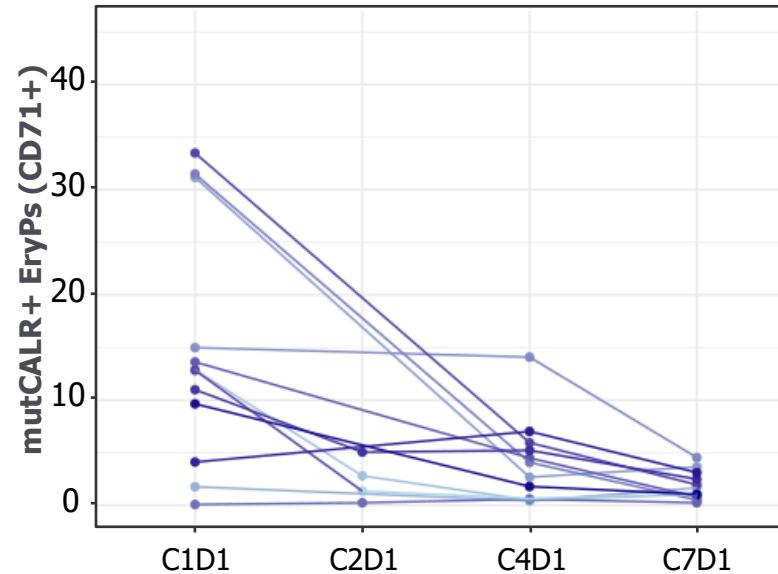
\*1 patient with 0 mutCALR<sup>-</sup> MK at screening is not shown. Bone Marrow mutCALR IHC quantitative assessment of mutCALR<sup>+</sup> and mutCALR<sup>-</sup> MK were conducted by pathologist at screening and at timepoints on-treatment (primarily 3 or 6 cycles). †Fibrosis grade was centrally assessed for all patients with available screening and C7D1 samples. "Improved": decreased by ≥1 grade; "Unchanged": stable. ET, essential thrombocythemia; IHC, Immunohistochemistry; MF, myelofibrosis; MK, megakaryocytes; SVR35, spleen volume reduction ≥ 35%.

# 989 normalizes erythropoiesis in patients with MF and is associated with anemia response

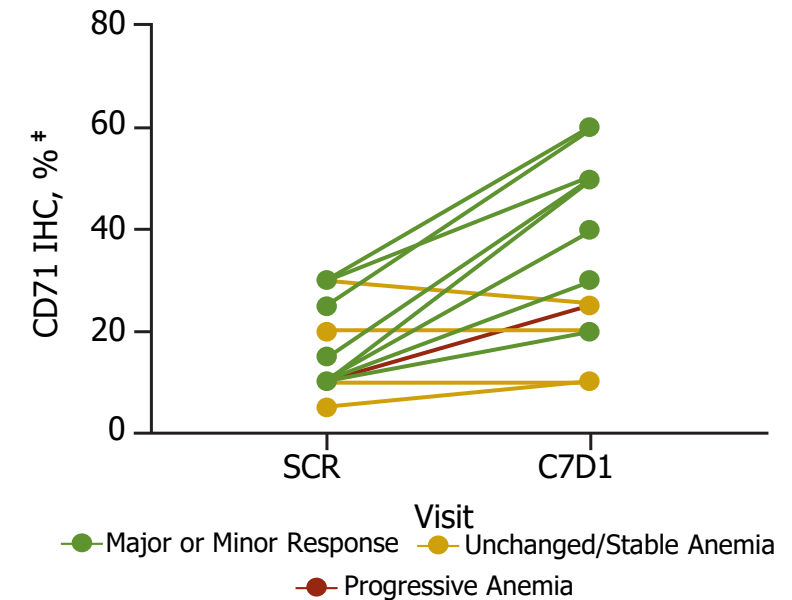
## Anemia Response\* in Evaluable Patients (MF)

Variable	TDA (n=5)	Non-TDA (n=20)	Total (n=25)
Best Anemia Response, n (%)			
Major Response	1 (20)	9 (45)	10 (40)
Minor Response	2 (40)	2 (10)	4 (16)
Stable Anemia	1 (20)	7 (35)	8 (32)
Progressive Anemia	1 (20)	1 (5)	2 (8)
Missing <sup>†</sup>	0 (0)	1 (5)	1 (4)

## Atypical Circulating mutCALR<sup>+</sup> EryPs (MF)



## EryPs in BM of Anemic Patients With (MF)



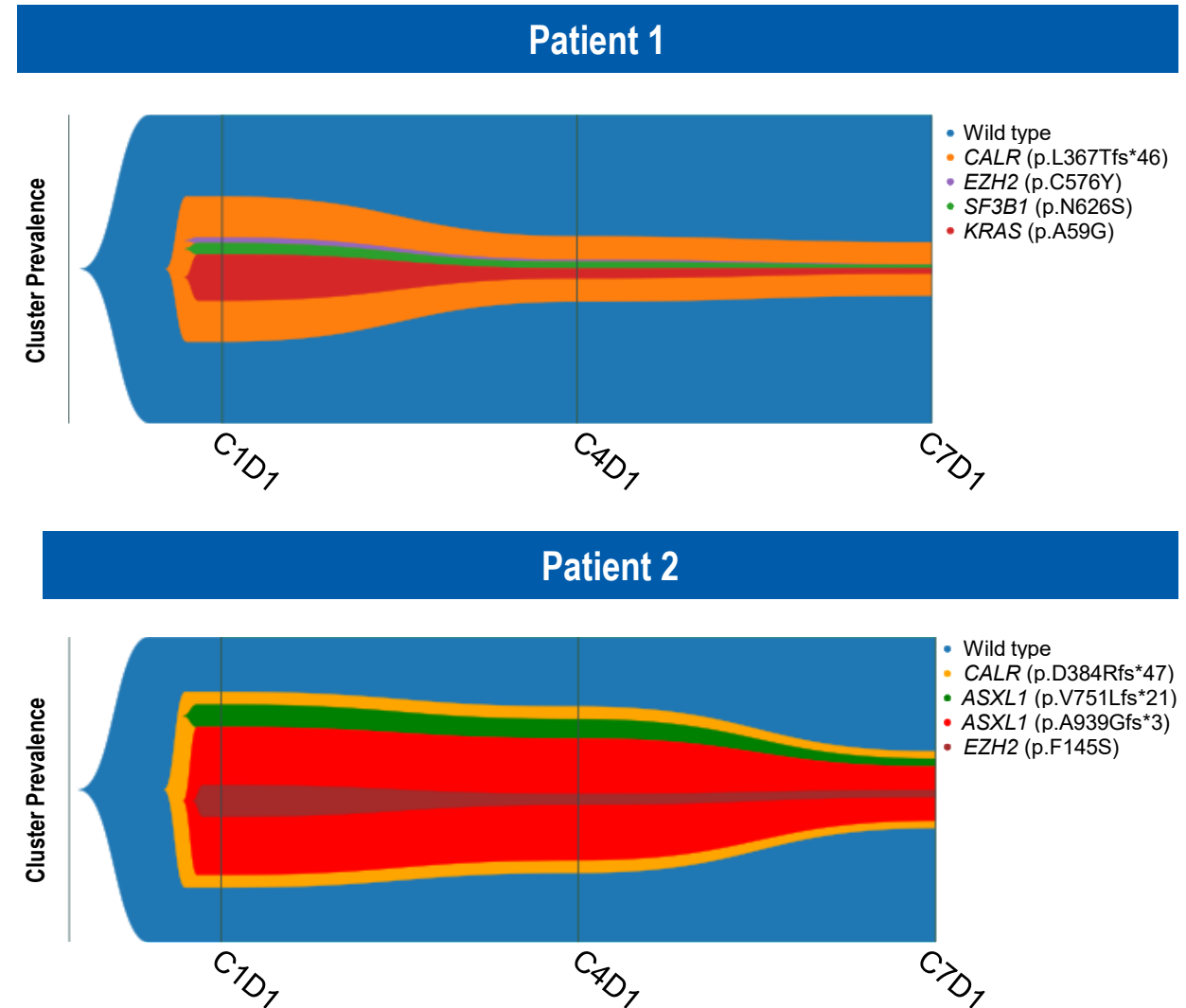
- Elevated levels of atypical circulating erythroid progenitor cells (EryPs) (CD71<sup>+</sup>) associated with extramedullary hematopoiesis were decreased in patients with MF with INCA033989 treatment
- EryPs (CD71 immunohistochemistry [IHC]) in bone marrow increased in anemic patients with MF, correlating with hemoglobin increase and clinical anemia response

Single-cell DNA sequencing: Presented scDNAseq data is from available dose escalation patient samples: MF (n=12, 50-1500mg).

\*Criteria for baseline anemia and response based on Tefferi A. *Blood*. 2024;114:1813. Major anemia response for patients with TDA: no transfusions for 12 weeks and rolling 12-week average hemoglobin increase of  $\geq 1.5$  g/dL from pretreatment baseline. Major anemia response for patients with non-TDA: rolling 12-week average hemoglobin increase of  $\geq 1.5$  g/dL from pretreatment baseline (also requires no transfusions). <sup>†</sup>Patient terminated treatment before 12 weeks. \*CD71 IHC was centrally assessed by a single pathologist; data include all patients with baseline anemia and available CD71 IHC for screening and C7D1 (n=14). BM, bone marrow; EryPs, erythroid progenitor cells; IHC, Immunohistochemistry; MF, myelofibrosis; mutCALR, mutations in calreticulin; SCR, screening; TDA, transfusion-dependent anemia.

# Reductions in mut*CALR* clones in PBMCs are evident, regardless of the presence of co-occurring mutations in patients with MF

- **76.5%** (39/51) of patients with MF had a co-occurring mutation (mean [range], 2.6 [1-4])
- **40.5%** (15/37\*) of patients with a co-occurring mutation had SVR and/or anemia response
- 2 patients with MF (analyzed with single-cell sequencing) with high clonal complexity are displayed on the right and demonstrate reductions in all clones with mut*CALR*, independent of co-occurring mutations



# Conclusions

- INCA033989 results in **rapid normalization of platelet counts** in ET, and splenomegaly, **symptoms** and **anemia responses** in MF
- **Clinical responses** are **associated** with rapid **reductions in mut*CALR* clone burden**
  - Demonstrating speed and depth of molecular response
  - Highlighting VAF as a relevant, measurable endpoint
- **Clonal responses** in MF are also observed in patients who have **co-occurring high-risk mutations**, including those associated with increased risk of progression to AML
- **Improvements in bone marrow** are demonstrated by decreases in mut*CALR* megakaryocytes and increases in erythroid progenitor cells and are associated with anemia response
- Support the **potential of INCA033989 to modify the disease** of patients with mut*CALR* MPNs

# Next Steps

**Steven Stein, MD**

Executive Vice President, Chief Medical Officer

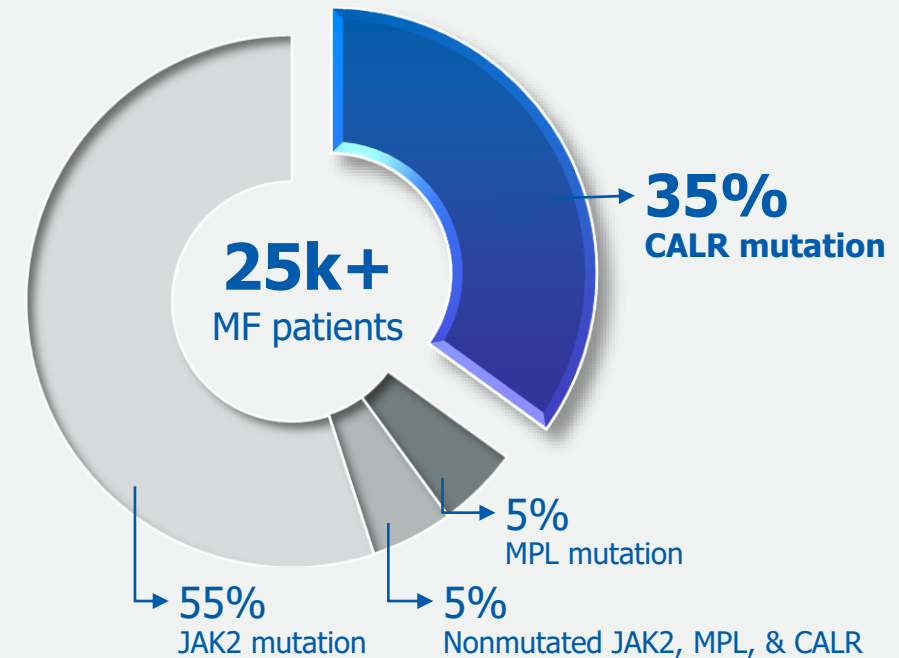
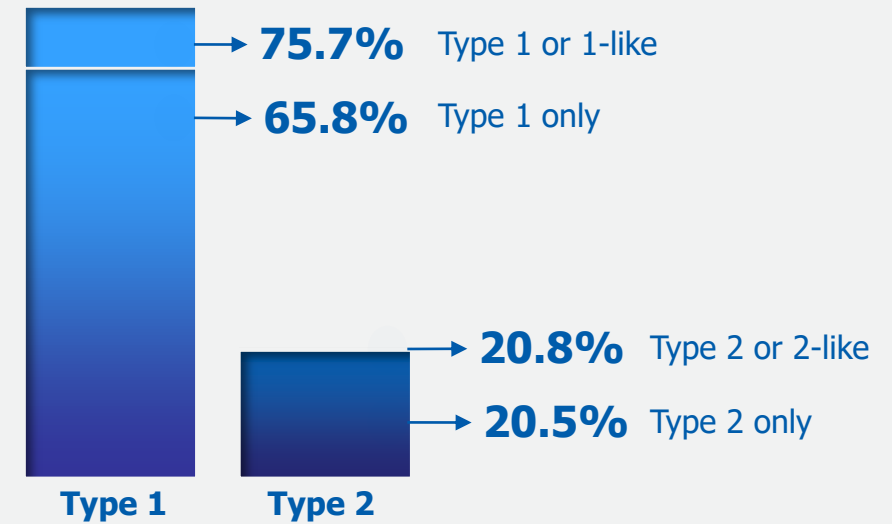


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# Mutation landscape defines clear opportunities for targeted development in myelofibrosis

- ~25k people living with myelofibrosis in the U.S.
- CALR is the **second most common mutation** in MF patients, occurring in **35% of patients**
- Goals of MF management remain **only partially met today**, with only 1/3 of patients respond to current JAK inhibitors
- Need remains for innovative **approaches targeting underlying molecular drivers**
- **76% of mutCALR patients are Type 1 or Type 1-like**<sup>1</sup>

## CALR Mutation Type in MF Patients



# Data support differentiated, disease modifying opportunity in MF patients with CALR mutation

- '989 was generally **well-tolerated**, with **85%+ of patients remaining on therapy** in both cohorts
  - No DLTs; MTD not reached
- Rapid and **robust reductions** in spleen volume in monotherapy and combination therapy cohorts
  - At Week 24, 42% and 33% of patients achieved an SVR25 and SVR35, respectively (monotherapy)
- **Improvements in symptoms** seen in majority of patients across monotherapy (93%) and combination (81%) cohorts
  - At Week 24, 39% (monotherapy) and 33% (combination) of patients achieved TSS50
- **Robust improvements in anemia; 56%** of evaluable patients achieved an anemia response
- At higher doses, reductions in spleen volume, improvement in symptoms, and anemia response seen among both **Type 1 and non-Type 1 patients**
- **Improvements in bone marrow** are demonstrated by **decreases in mutCALR megakaryocytes and increases in erythroid progenitor cells** and are associated with anemia response
  - Support the **potential for disease-modifying activity** of '989 in patients with a CALR mutation



# Early evidence across populations anchors the path to pivotal development

ET (2L)	MF (2L)	MF (1L)	SubQ (ET, MF)
<ul style="list-style-type: none"> <li>✓ <b>Breakthrough Therapy Designation</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ Phase 1 dose expansion ongoing (mono, combo)</li> <li>✓ <b>Finalizing dose</b> selection</li> </ul>	<ul style="list-style-type: none"> <li>✓ Phase 1 <b>dose expansion ongoing</b> (989 vs. 989 +ruxolitinib)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Agreement with Enable signed for development of <b>EnFuse® device</b></li> </ul>
<ul style="list-style-type: none"> <li>📅 <b>Planned Phase 3 trial</b> initiation in mid-2026*               <ul style="list-style-type: none"> <li>• 989 IV Q2W vs. BAT</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>📅 <b>Planned Phase 3 trial</b> initiation in 2H26†               <ul style="list-style-type: none"> <li>• 989 IV Q2W vs. BAT</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>📅 <b>Preliminary Phase 1 results</b> anticipated 2H26‡               <ul style="list-style-type: none"> <li>• Data to inform 1L pivotal trial design</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>📅 <b>Phase 1 trial initiation</b> in ET &amp; MF early-2026               <ul style="list-style-type: none"> <li>• Data to enable bridging strategy in ET &amp; MF</li> </ul> </li> </ul>



\*Planned evaluation of INCA033989 in mutCALR ET patients who are resistant/intolerant to prior cytoreductive therapy, pending alignment with regulators in early-2026; †Planned evaluation of INCA033989 in mutCALR MF patients who are r/r to JAK treatment, pending alignment with regulators in mid-2026 ‡ Intermediate to high-risk treatment-naïve  
 BAT, best available therapy; ET, essential thrombocythemia; JAK, Janus kinase; MF, myelofibrosis

# Q&A



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