# Safety and Efficacy of Talquetamab + Teclistamab in Patients With Relapsed/Refractory Multiple Myeloma From Phase 1b of RedirecTT-1: Results With an Extended Median Follow-Up of 3 Years

María-Victoria Mateos<sup>1\*</sup>, Hila Magen<sup>2</sup>, Moshe Gatt<sup>3</sup>, Michael Sebag<sup>4</sup>, Kihyun Kim<sup>5</sup>, Chang-Ki Min<sup>6</sup>, Enrique M Ocio<sup>7</sup>, Sung-Soo Yoon<sup>8</sup>, Michael P Chu<sup>9</sup>, Paula Rodríguez-Otero<sup>10</sup>, Irit Avivi<sup>11</sup>, Natalia A Quijano Cardé<sup>12</sup>, Maria Krevvata<sup>12</sup>, Todd Henninger<sup>13</sup>, Payal Thakkar<sup>13</sup>, Mariacristina Festa<sup>14</sup>, Guoqiang Zhang,<sup>12</sup> Sheetal Khedkar,<sup>15</sup> Lin Huang<sup>12</sup>, Jiangxiu Zhou<sup>12</sup>, Mikihiro Takamoto<sup>16</sup>, Lixia Pei<sup>13</sup>, Jiashen Lu<sup>17</sup>, Carmela Maffucci<sup>13</sup>, Emma Scott<sup>12</sup>, Albert Oriol<sup>18</sup>, Daniel Morillo<sup>19</sup>, Yael C Cohen<sup>11</sup>

¹University Hospital of Salamanca/IBSAL/CIC/CIBERONC, Salamanca, Spain; ²Chaim Sheba Medical Center, Ramat-Gan, Faculty of Medical and Health Sciences, Tel Aviv University, Tel Aviv, Israel; ³Hadassah Medical Cener, Hebrew University of Jerusalem, Jerusalem, Israel; ⁴McGill University and MUHC, Montreal, Quebec, Canada; ⁵Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea; °Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul, South Korea; ³Hospital Universitario Marqués de Valdecilla (IDIVAL), Universidad de Cantabria, Santander, Spain; ³Seoul National University College of Medicine, Seoul, South Korea; ³Alberta Health Services, Edmonton, Alberta, Canada; ¹¹Cancer Center Clínica Universidad de Navarra, Cima, Pamplona, Spain; ¹¹Tel Aviv Sourasky (Ichilov) Medical Center, Gray Faculty of Medical and Health Sciences, Tel Aviv University, Tel Aviv, Israel; ¹²Johnson & Johnson, Spring House, PA, USA; ¹³Johnson & Johnson, Raritan, NJ, USA; ¹⁴Johnson & Johnson, Leiden, Netherlands; ¹⁵Johnson & Johnson, Horsham, PA; ¹⁶Johnson & Johnson, Tokyo, Japan; ¹¹Johnson & Johnson, Shanghai, China; ¹⁶Institut Català d'Oncologia and Josep Carreras Research Institute, Hospital Germans Trias i Pujol, Badalona, Barcelona, Spain; ¹⁰University Hospital Fundación Jiménez Díaz, START Madrid-FJD early phase unit, Madrid, Spain

\*Presenting author.

https://www.congresshub.com/ASH2025/ Oncology/Talquetamab/Mateos

The QR code is intended to provide scientific information for individual reference, and the information should not be altered or reproduced in any way.



### RedirecTT-1 Phase 1 (Tal + Tec): First Study of a Bispecific Combination in RRMM

- Talquetamab (Tal; anti-GPRC5D×CD3) and teclistamab (Tec; anti-BCMA×CD3) are first-in-class BsAbs that have demonstrated deep, durable efficacy in triple-class exposed RRMM<sup>1-5</sup>
  - Tal's B-cell sparing mechanism preserves humoral immunity (grade 3/4 infection risk, 16–28%)<sup>6</sup>
  - Tec demonstrated comparable safety in community and academic treatment settings<sup>7</sup>
- Dual-targeting GPRC5D and BCMA with the combination of Tal + Tec may improve response rate, depth, and durability compared with either monotherapy by mitigating primary resistance, tumor heterogeneity, and antigen-related escape
- In previous results, Tal + Tec elicited deep, durable responses at the RP2R (Tal 0.8 mg/kg + Tec 3.0 mg/kg Q2W) and demonstrated a safety profile generally consistent with each monotherapy in RRMM at a median follow-up of 20.3 months<sup>8</sup>

We report efficacy and ongoing safety from phase 1b of RedirecTT-1 at an extended median follow-up of 38.0 months (all dose levels) and 34.5 months (RP2R)

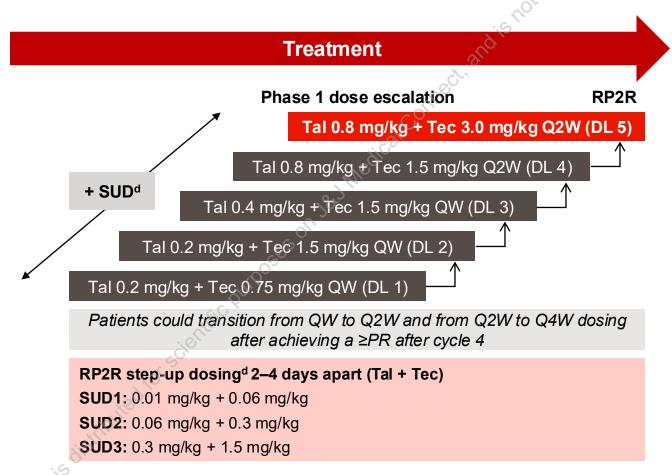


### RedirecTT-1 Phase 1 (Tal + Tec): Study Design and RP2R selection

#### Screening

#### Key eligibility criteria

- Triple-class exposed RRMM<sup>a</sup> with measurable disease per IMWG criteria
- EMD permitted
   (≥1 nonradiated,
   bone-independent soft
   tissue plasmacytoma
   ≥2 cm in greatest dimension)
- RR or intolerant to established therapies, including last LOT



#### **Key objectives**

- Safety, including DLTs<sup>b</sup>
- Identify RP2R(s)
- ORR°
- DOR
- PFS
- OS

<sup>a</sup>Prior proteasome inhibitor, immunomodulatory drug, anti-CD38 monoclonal antibody. <sup>b</sup>CRS and ICANS AEs were graded per American Society for Transplantation and Cellular Therapy criteria; all other AEs were graded per CTCAE v5.0. <sup>c</sup>Investigator-assessed confirmed response per IMWG criteria was reported. <sup>d</sup>Tal and Tec administered on the same day, 30 (±10) minutes apart, for all step-up and full treatment doses. AE, adverse event; CRS, cytokine release syndrome; CTCAE, Common Terminology Criteria for Adverse Events; DL, dose-limiting toxicity; DOR, duration of response; EMD, extramedullary disease; ICANS, immune effector cell–associated neurotoxicity syndrome; IMWG, International Myeloma Working Group; LOT, line of therapy; ORR, overall response rate; OS, overall survival; PFS, progession-free survival; PR, partial response; Q4W, every 4 weeks; QW, weekly; RR, relapsed/refractory, SUD, step-up dose.

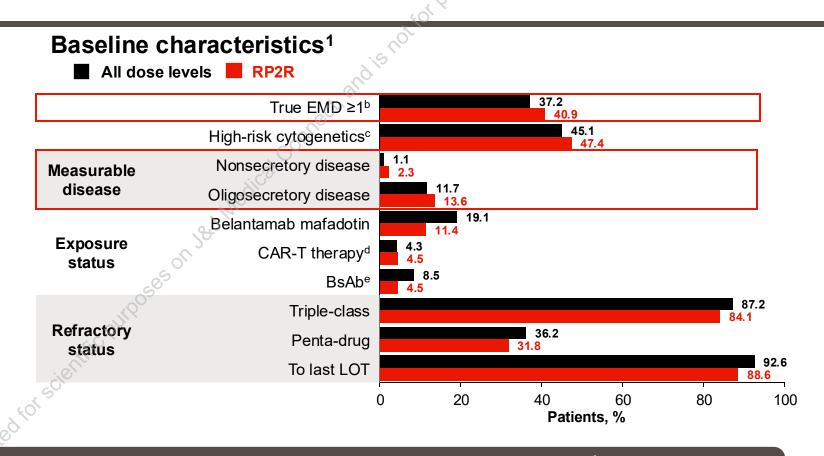
Cohen YC, et al. *N Engl J Med* 2025;392:138-49.



### RedirecTT-1 Phase 1 (Tal + Tec): Baseline Characteristics

Patients treated with Tal + Tec	N=94 n=44		
Age <sup>a</sup> (years)	64.5 (39–81) 63.0 (41–80)		
Male	52.1% 52.3%		
Years since diagnosisª	6.0 (0.3–14.6) 5.5 (0.3–12.8)		
Prior LOT <sup>a</sup>	4 (1–11) 4 (2–10)		

- As of July 2025:
  - 37.2% (all dose levels) and 47.4%
     (RP2R) remained on study treatment
  - mFU was 38.0 mo (all dose levels) and 34.5 mo (RP2R)



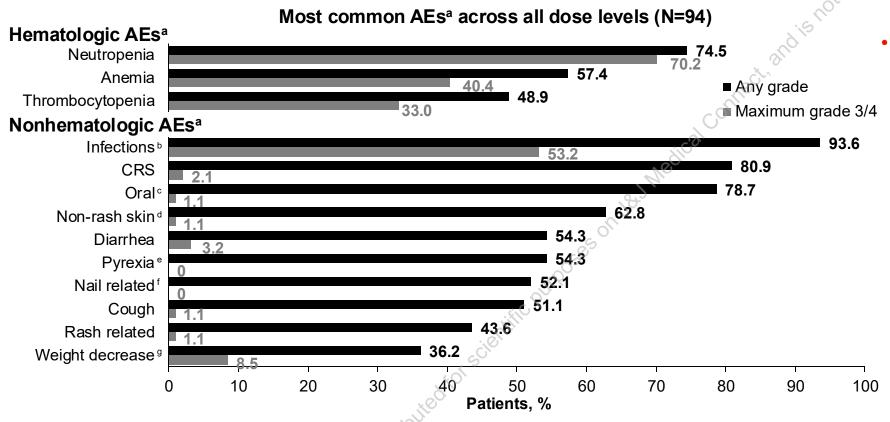
Baseline characteristics were reflective of triple-class exposed RRMM,<sup>1</sup> inclusive of patients with significant unmet needs

<sup>a</sup>Data are presented as median (range). <sup>b</sup>≥1 nonradiated bone-independent soft tissue plasmacytoma (≥2 cm in greatest dimension). <sup>c</sup>FISH or karyotype testing in n=51 (all dose levels) and n=19 [RP2R; defined as del(17p), t(4;14), or t(14;16)]. <sup>d</sup>2.1% (all doses) and 4.5% (RP2R) received BCMA CAR-T. <sup>e</sup>Across all doses, 4 patients received alnuctamab, 2 patients received WV-T078, 1 patient received teclistamab, and 1 patient received cevostamab. CAR, chimeric antigen receptor; FISH, fluorescence in situ hybridization; mFU, median follow-up.

1. Cohen YC, et al. *N Engl J Med* 2025;392:138-49.



# RedirecTT-1 Phase 1 (Tal + Tec): Summary of Common AEs<sup>a</sup>



- 7.4% discontinuations due to AEs
  - Tal + Tec (n=1 each): multiple organ dysfunction, pulmonary toxicity, odynophagia, PML,<sup>h</sup> leptomeningeal myelomatosis, myelodysplastic syndrome
  - Tal only (n=1): gingival bleeding, tongue discomfort, dysgeusia, pain in extremity

The safety profile was consistent with each monotherapy with low rates of discontinuations due to AEs

Data cut-off: July 2025. Median follow-up: 38.0 months (all dose levels), 34.5 months (RP2R). <sup>a</sup>AEs occurring in ≥30% of patients are shown. <sup>b</sup>The most common infections were COVID-19 (40.4%) and upper respiratory tract infection (30.9%); patients were screened for enrollment between 2020 to 2023, concurrent with the pandemic. <sup>c</sup>Including ageusia, cheilitis, dry mouth, dysgeusia, dysphagia, glossitis, glossodynia, hypogeusia, mouth ulceration, oral discomfort, oral mucosal erythema, oral pain, stomatitis, swollen tongue, taste disorder, tongue discomfort, tongue erythema, tongue edema, and tongue ulceration. <sup>d</sup>Includes skin exfoliation, dry skin, pruritus, and palmar-plantar erythrodysesthesia syndrome. <sup>e</sup>Excludes symptoms of CRS or ICANS. <sup>f</sup>Includes nail discoloration, nail disorder, onycholysis, onychomadesis, onychoclasis, nail dystrophy, nail toxicity, and nail ridging. <sup>g</sup>Includes rash, maculopapular rash, erythematous rash, and erythema. <sup>n</sup>PML event onset occurred 301 days after the most recent dose of Tal + Tec. PML, progressive multifocal leukoencephalopathy.



# RedirecTT-1 Phase 1 (Tal + Tec): Summary of Infections

Most common AEs		e levels =94)	RP2R (n=44)	
(≥15% overall), n (%)	Any Grade	Maximum Grade 3/4	Any Grade	Maximum Grade 3/4
Median follow-up	38.0 r	nonths	34.5 n	nonths
Infections	88 (93.6)	50 (53.2)	41 (93.2)	19 (43.2)
COVID-19 <sup>a</sup>	38 (40.4)	15 (16.0)	20 (45.5)	7 (15.9)
URTI	29 (30.9)	4 (4.3)	15 (34.1)	1 (2.3)
Pneumonia	25 (26.6)	10 (10.6)	11 (25.0)	4 (9.1)
Nasopharyngitis	16 (17.0)	0	4 (9.1)	illic 0
Rhinovirus infection	16 (17.0)	3 (3.2)	6 (13.6)	0
UTI	12 (12.8)	2 (2.1)	8 (18.2)	1 (2.3)

- Grade 3/4 infection rate was consistent with Tec monotherapy<sup>1</sup>
  - Median duration of any-grade infection: 13.5 days, most (87.2%) resolved
- •16 (17.0%) patients had opportunistic infections
  - CMV reactivation (n=5), PML (n=4), adenovirus infection (n=2), esophageal candidiasis (n=2), other<sup>b</sup> (1 each for total of n=10)
- 84 (89.4%) patients had hypogammaglobulinemiac
- 65 (69.1%) of all patients received ≥1 dose of lg replacement

#### At RP2R, grade 3/4 infection rate was 43%, consistent with Tec monotherapy in MajesTEC-11

Data cut-off: July 2025. Infection prophylaxis, including Ig replacement, was strongly recommended and given per institutional guidelines: 84.0% received antiviral prophylaxis (all doses). Patient recruitment began in December 2020, running concurrently with the COVID-19 pandemic and overlapping with peak infection and death rates worldwide, based on World Health Organization data. CMV colitis, disseminated varicella-zoster virus infection, hepatitis B reactivation, human herpesvirus-6 encephalitis, listeriosis, adenoviral pneumonia, fungal pneumonia, pulmonary nocardiosis, and Kaposi's sarcoma. Patients could experience ≥1 opportunistic infection. Posttreatment hypogammaglobulinemia AEs or IgG <400 mg/dL. CMV, cytomegalovirus; Ig, immunoglobulin; URTI, upper respiratory tract infection; UTI, urinary tract infection. 1. Moreau P, et al. N Engl J Med 2022;387:495-505. 2. World Health Organization. WHO COVID-19 dashboard. WHO Global. https://data.who.int/dashboards/covid19/cases.



## RedirecTT-1 Phase 1 (Tal + Tec): Summary of Grade 5 AEs

- All dose levels (including QW dosing; N=94): 18 (19.1%) grade 5 AEs, including 15 infections<sup>a</sup> -
- Confounding factors for grade 5 infections at RP2R:
  - No COVID-19 vaccination in 2 of 3 COVID-19 pneumonia cases
  - Severe hypogammaglobulinemia in 3 of 5 cases

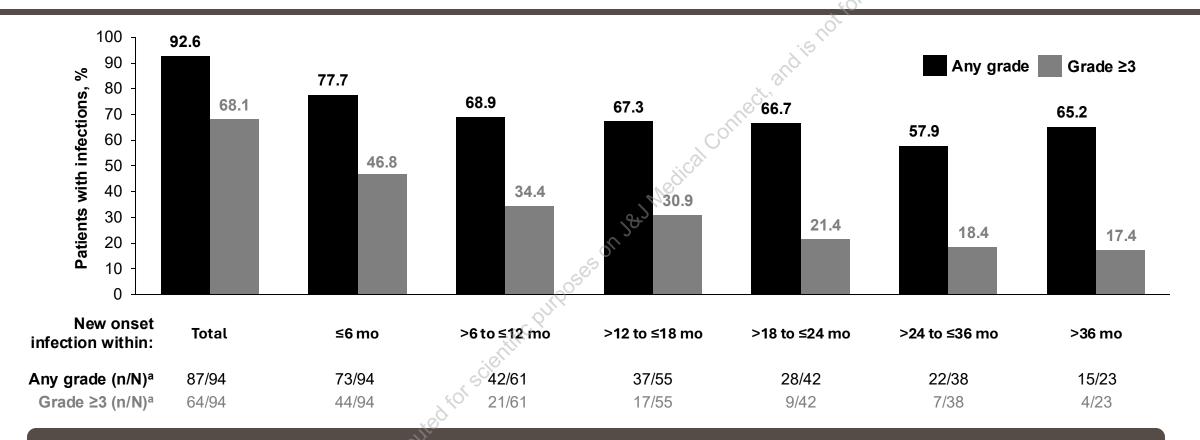
Grade 5 infections	Study day of death	Calendar year of death	Received ≥1 dose of lg replacement	IgG level prior to death, mg/dL	Response at time of death		
At RP2R							
COVID-19 pneumonia <sup>b</sup>	96	2022	No	109	PR		
COVID-19 pneumonia <sup>c,d</sup>	144	2022	No	159	sCR		
COVID-19 pneumonia <sup>b</sup>	51	2022	No	596	NA		
Fungal pneumonia	57	2022	No	217	NA		
PML <sup>e,f</sup>	661	2023	Yes	514	sCR		
At non-RP2R dose levels							
Adenovirus infectiond	395	2022	Yes	16	CR		
Aspiration pneumonia	70	2022	Yes	1325	SD→NE		
CMV pneumonia <sup>d</sup>	117	2021	No	69	VGPR		
COVID-19 <sup>b</sup>	264	2021	Yes	911	PR		
PML <sup>d,e</sup>	217	2021	Yes	823	PD→NE		
PML <sup>d,e</sup>	296	2022	No	16	VGPR		
Respiratory tract infection <sup>d</sup>	217	2021	No	39	CR		
Sepsis <sup>d</sup>	110	2021	No	167	PR		
Septic shock <sup>d</sup>	1274	2024	Yes	399	NE		
Septic shock	91	2021	No	153	MR		

At RP2R (n=44): 6 (13.4%) grade 5 AEs, including 5 (11.3%) infections<sup>f</sup>, highlight need for active IgG monitoring and vigilant infection management, including vaccination and Ig replacement as needed

Data cut-off: July 2025. Median follow-up: 38.0 months (all dose levels), 34.5 months (RP2R). <sup>a</sup>Grade 5 AEs at non-RP2R dose levels included 2 noninfectious AEs (leptomeningeal myelomatosis, myelodysplastic syndrome). <sup>b</sup>Patient did not receive COVID-19 vaccination. <sup>c</sup>Patient received COVID-19 vaccination. <sup>d</sup>Deemed related to Tal or Tec by the investigator. <sup>e</sup>PML onset occurred 62, 5, and 226 days, respectively, after the most recent dose of Tal + Tec. <sup>e</sup>The noninfectious death was due to cardiac arrest. CR, complete response; NA, not applicable; NE, not estimable; PD, progressive disease; PR, partial response; sCR, stringent complete response; SD, stable disease; VGPR, very good partial response.



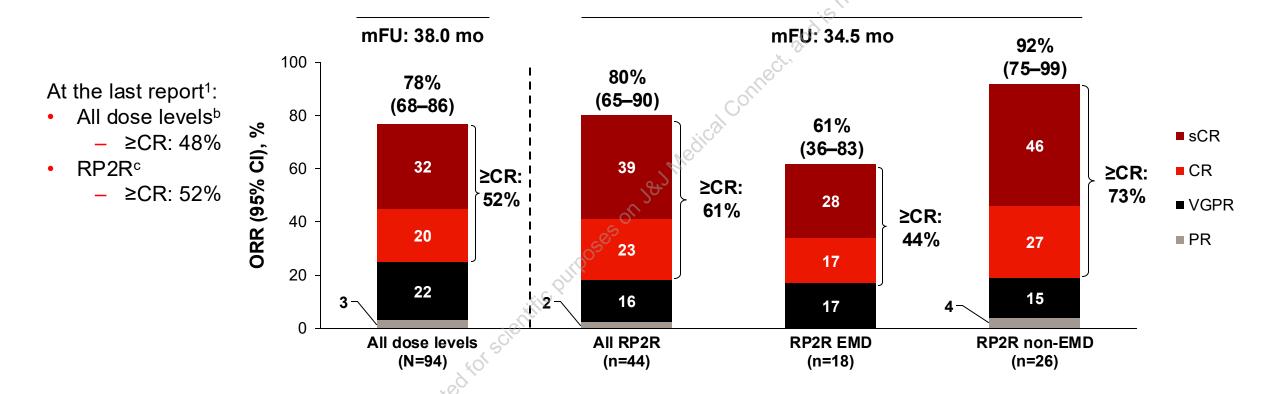
### RedirecTT-1 Phase 1 (Tal + Tec): Timing of New-Onset Infections Across All Dose Levels



Any-grade infection risk peaked early and stabilized by ~6 months; grade ≥3 infection risk was highest in the first 6 months and decreased over time



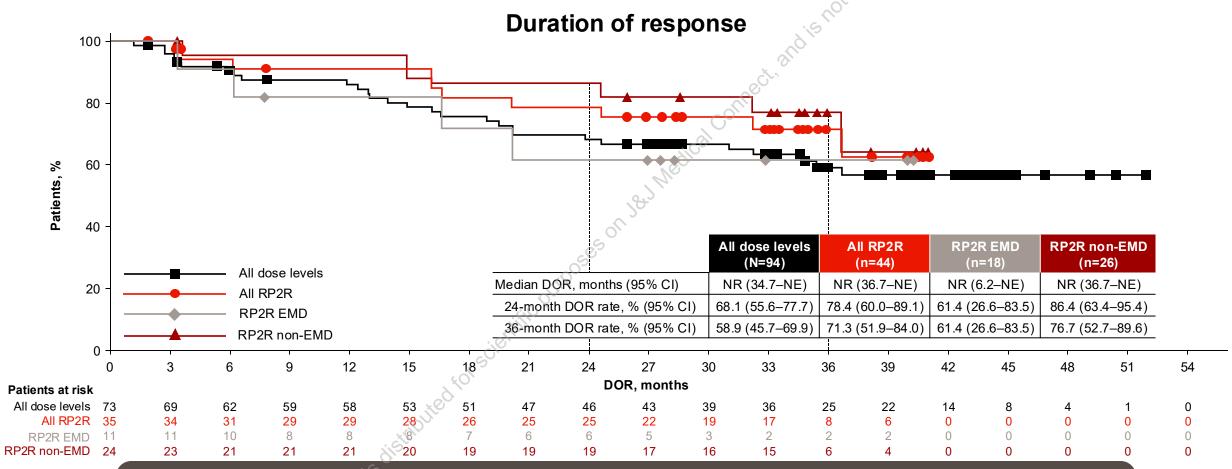
### RedirecTT-1 Phase 1 (Tal + Tec): Patients Achieved High ORR<sup>a</sup> and Deep Responses



#### More than 60% of patients achieved a ≥CR at the RP2R



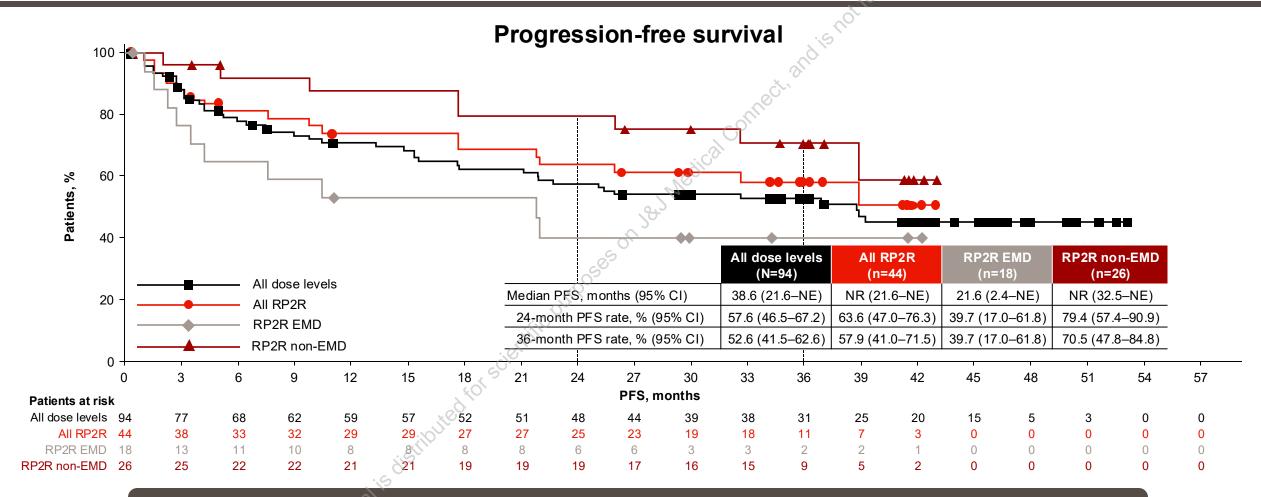
# RedirecTT-1 Phase 1 (Tal + Tec): Median DOR Not Reached at 38 Months of Follow-Up Across All Dose Levels



At RP2R, 71% of responders remained in response at 3 years; responses were more durable in non-EMD



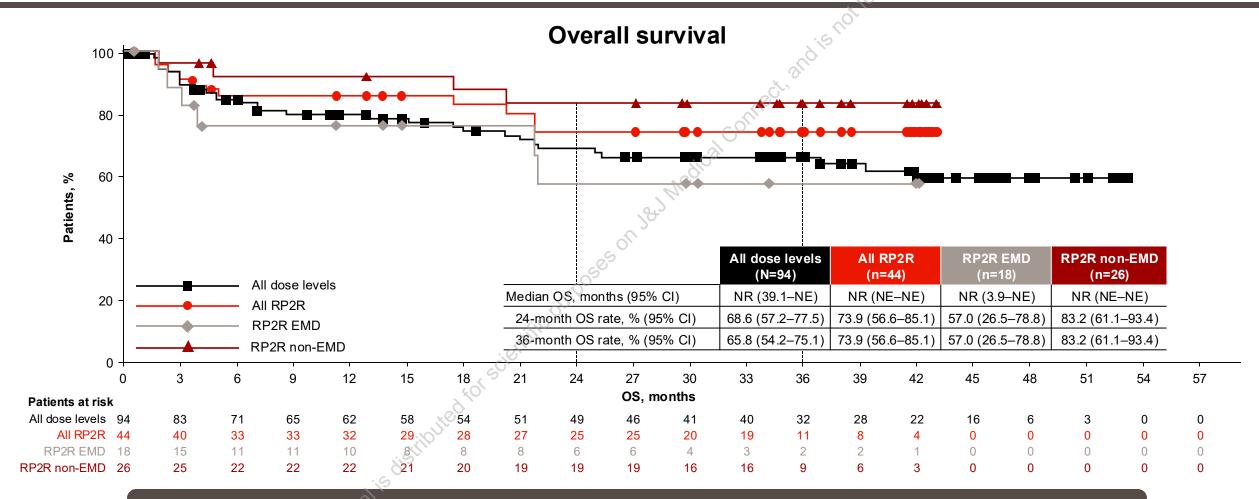
## RedirecTT-1 Phase 1 (Tal + Tec): Median PFS 38.6 Months at 38 Months of Follow-Up Across All Dose Levels



At RP2R, 58% of patients were progression free and alive at 3 years



## RedirecTT-1 Phase 1 (Tal + Tec): Median OS Not Reached at 38 Months of Follow-Up Across All Dose Levels



At RP2R, 74% of patients were alive at 3 years, including 83% of patients without EMD



#### RedirecTT-1 Phase 1: Tal + Tec

- At ~3 years of follow-up, the dual BsAb combination of Tal + Tec at RP2R of Tal 0.8 mg/kg + Tec 3.0 mg/kg
   Q2W demonstrated:
  - -80% ORR and 61% ≥CR rate, with responses deepening over-time¹
  - At 3 years, 58% PFS rate and 71% DOR rate
  - Combinability, with safety profile of the RP2R consistent with each of the monotherapies
- Support patients with vigilant monitoring and management of infections, including lg replacement and infection prophylaxis
- The ongoing phase 3 MonumenTAL-6 study is evaluating fixed-duration Tal 0.8 mg/kg Q2W + Tec 3.0 mg/kg Q4W vs Tal + Pom vs EPd or PVd in patients with 1–4 prior LOT

Long-term data demonstrate safety, efficacy, and combinability of the novel, dual-antigen targeting combination of Tal + Tec in TCE RRMM, including patients with EMD

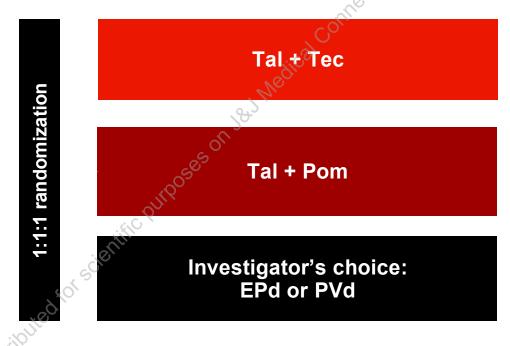


### Future Directions: Phase 3 MonumenTAL-6 Tal + Tec in RRMM with 1–4 Prior LOT

#### MonumenTAL-6 study design

#### Key eligibility criteria

- 1–4 prior LOT, including anti-CD38 mAb and Len
- ECOG PS ≤2
- Naive to Tec, Pom, GPRC5D-directed therapy
- Naive to Elo (EPd arm)



#### **Primary endpoint**

• PFS

#### **Key secondary endpoints**

- ORR
- ≥CR
- MRD-negative CR
- OS



### **Acknowledgments**

- We thank the patients who are participating in this study and their caregivers, the physicians and nurses who care for them, the staff at study sites, and the staff involved in data collection and analyses
- We thank Ashwini Kumar, PhD, for their support and insights
- We thank all the RedirecTT-1 phase 1 study investigators
- This study was funded by Johnson & Johnson
- Medical writing support was provided by Michelle Yang, PharmD, of Eloquent, part of Envision Ignite, an Envision Medical Communications agency, a part of Envision Pharma Group, and funded by Johnson & Johnson

https://www.congresshub.com/ASH2025/ Oncology/Talquetamab/Mateos

The QR code is intended to provide scientific information for individual reference, and the information should not be altered or reproduced in any way.

