

# Interim Phase 2 (Part 1a) Preeclampsia Data

July 17, 2025



**DiaMedica**  
THERAPEUTICS

Transforming Care for Preeclampsia and Stroke

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# Early-Onset PE and FGR: Severe Conditions with a \$5B+ U.S. Market



## Disease Overview

- › **Preeclampsia (PE):** life-threatening high blood pressure disorder accompanied by multi-system organ damage that occurs only during pregnancy.
  - Early onset PE is a severe sub-type that occurs before 34 weeks of pregnancy where **50% of deliveries are driven by refractory hypertension despite maximal intervention**<sup>6</sup>.
  - There are currently **no disease modifying therapies** approved for PE.
- › **Fetal Growth Restriction (FGR):** A condition where a baby is not growing as expected, often due to **preeclampsia** or other complications.

## Annual Incidence in U.S.

**325,000+**

FGR & PE<sup>1,2</sup>

**~200,000**

PE<sup>2</sup>

**~30,000**

Early onset PE<sup>3,4</sup>



**~20,000**

Early onset FGR<sup>5\*</sup>

INITIAL TARGETS



1. Baschat et al. (2021). FIGO initiative on fetal growth: Best practice advice for screening, diagnosis, and management of fetal growth restriction. *International Journal of Gynecology & Obstetrics*, 152(S1), 3-12.  
 2. Chappell, L. C., et al. (2021). Pre-eclampsia. *The Lancet*, 398(10297), 341-354.  
 3. Teka, H., et al. (2023). Clinical presentation, maternal-fetal, and neonatal outcomes of early-onset versus late onset preeclampsia-eclampsia syndrome in a teaching hospital in a low-resource setting: A retrospective cohort study. *PLoS one*, 18(2), e0281952.  
 4. E., G., Akurati, et al. (2018). Early onset and late onset preeclampsia-maternal and perinatal outcomes in a rural tertiary health center. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 7(6), 2266-2269.  
 5. Dall'Asta, A., et al. (2017). Early onset fetal growth restriction. *Maternal health, neonatology and perinatology*, 3, 2.  
 6. Paidas, M. J., et al. (2020). Prospective, randomized, double-blind, placebo-controlled evaluation of the pharmacokinetics, safety, and efficacy of recombinant antithrombin versus placebo in preterm preeclampsia. *American Journal of Obstetrics & Gynecology*, 223(5), 739.e1-739.e13.

\*FGR Only

# Interim Phase 2 (Part 1a) Results

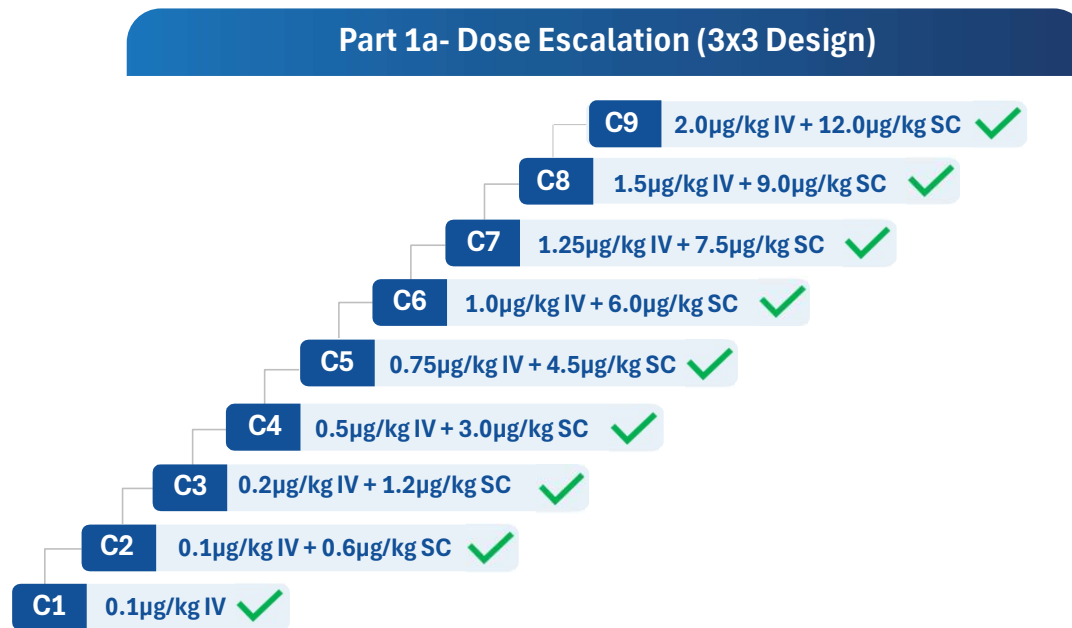


# Interim Phase 2 (Part 1a) Results of DM199 for Preeclampsia are a Clear Success

- › **Safety:** No placental transfer of DM199. Well tolerated with no serious TEAEs reported.
- › **Blood Pressure (BP):** Dose-dependent reductions in both systolic (SBP) and diastolic (DBP)
  - **Cohort 9 (n=3; highest dose):** Achieved the largest mean BP reduction of all cohorts at predefined 5-minute post-infusion timepoint: SBP ↓ 35 mmHg ( $p<0.05$ ), DBP ↓ 15 mmHg ( $p<0.05$ )
  - **Pooled cohorts 6-9 (n=12):** Statistically significant mean reductions in SBP and DBP across all predefined post-infusion timepoints—5 minutes, 30 minutes, and 24 hours
    - SBP: ↓ 25, ↓ 15, ↓ 20 mmHg at 5 min, 30 min, and 24 hours ( $p=0.0003$ ,  $p=0.0018$ ,  $p=0.0031$ )
    - DBP: ↓ 13, ↓ 13, ↓ 10 mmHg at 5 min, 30 min, and 24 hours ( $p=0.0007$ ,  $p=0.0002$ ,  $p=0.0294$ )
- › **Dilation of intrauterine arteries:** Statistically significant improvement in pulsatility index at the 2-hour timepoint<sup>1</sup>, signaling potential for enhanced placental perfusion and disease modification
  - ↓ 13.2% reduction in blood flow resistance ( $p=0.0003$ )

# DM199 Preeclampsia Phase 2 IST Trial – Part 1a

Women planned for delivery within 72 hours



- › Study designed to assess DM199 placental transfer with minimal fetal exposure and to evaluate early blood pressure effects. Repeated dosing avoided to prevent prolonged fetal exposure if transfer occurred. Limited dosing ( one each IV & SC) minimized fetal exposure risk during this assessment.

## Part 1 Overview

- › 27-42 weeks gestation (singleton)
- › >150 systolic blood pressure
  - › Receiving standard of care
- › <72 hours scheduled for delivery

## Study Groups

- › 1a. Up to 30 preeclampsia participants
  - › Ascending dose study identifying the optimal, medically relevant dose based on BP reductions
- › 1b. 30 preeclampsia participants. Expansion cohort at dose identified in 1A

## Primary Endpoints:

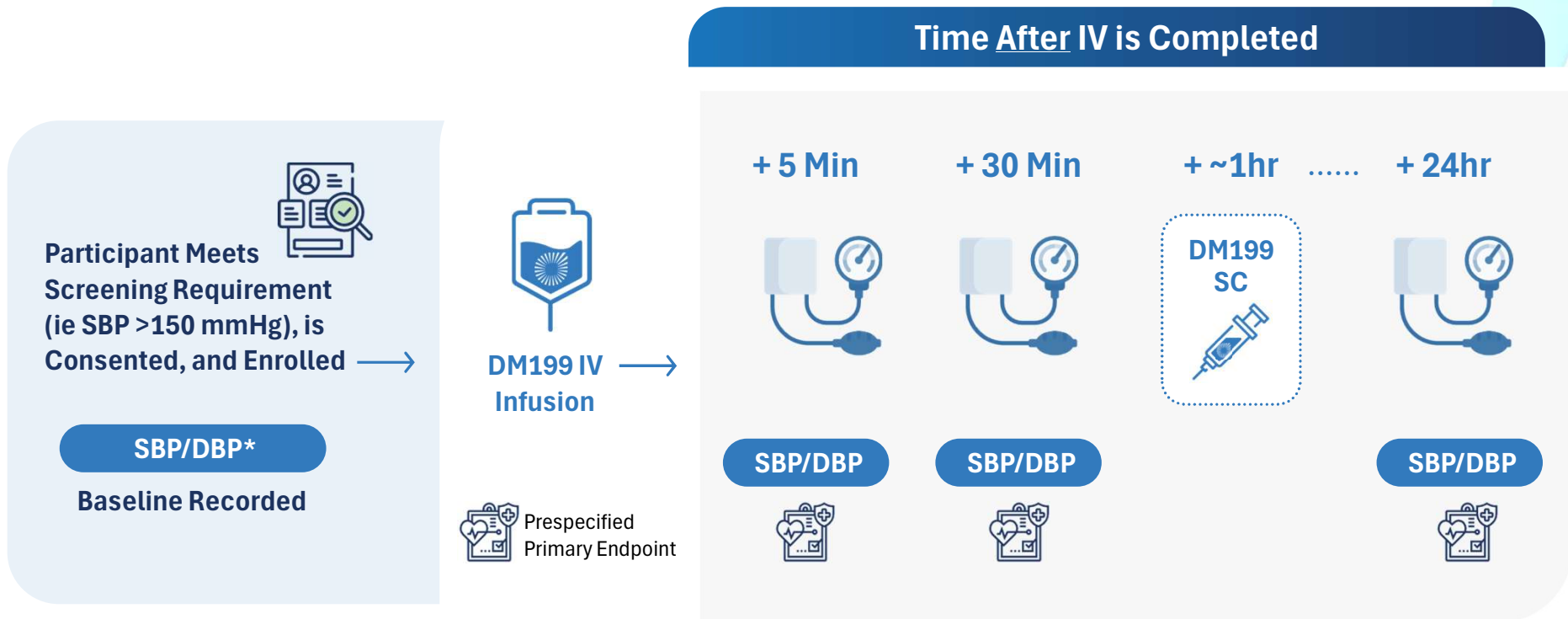
- › Safety and tolerability
  - › Includes results of placental crossing analysis/assay
- › Lower blood pressure

## Key Exploratory Endpoint

- › Dilatation of uterine arteries (Doppler)

# DM199 Administration Timepoints and Prespecified BP Measurements

Timepoints of BP Measurements Approximate Tmax of IV and SC Doses



# Baseline Demographics

IQR: Interquartile Range  
SD: Standard Deviation



## Characteristics

## DM199 (n=28)

Median (IQR) gestation at enrollment (weeks + days)	37+0 (35+6 - 38+1)
Median (IQR) maternal age (years)	32.5 (28.8 - 36.3)
Mean (SD), birth weight in grams	2591.3 (553.4)
BMI, median (IQR)	36.8 (33.4 - 43.4)
Race, n(%)	
Black	22 (79)
Mixed	6 (21)
Mean (SD) systolic blood pressure (mmHg)	165.9 (11.7)
Mean (SD) diastolic blood pressure (mmHg)	103.3 (9.8)
Received antihypertensives 24 hours prior to enrollment, n(%)	
1	10 (36)
2	14 (50)
3	4 (14)
Received short-acting antihypertensives after randomization, n(%)	8 (29)
Received magnesium sulphate, n(%)	27 (96)
Received corticosteroids after randomization, n(%)	1 (4)

## Delivery Characteristics

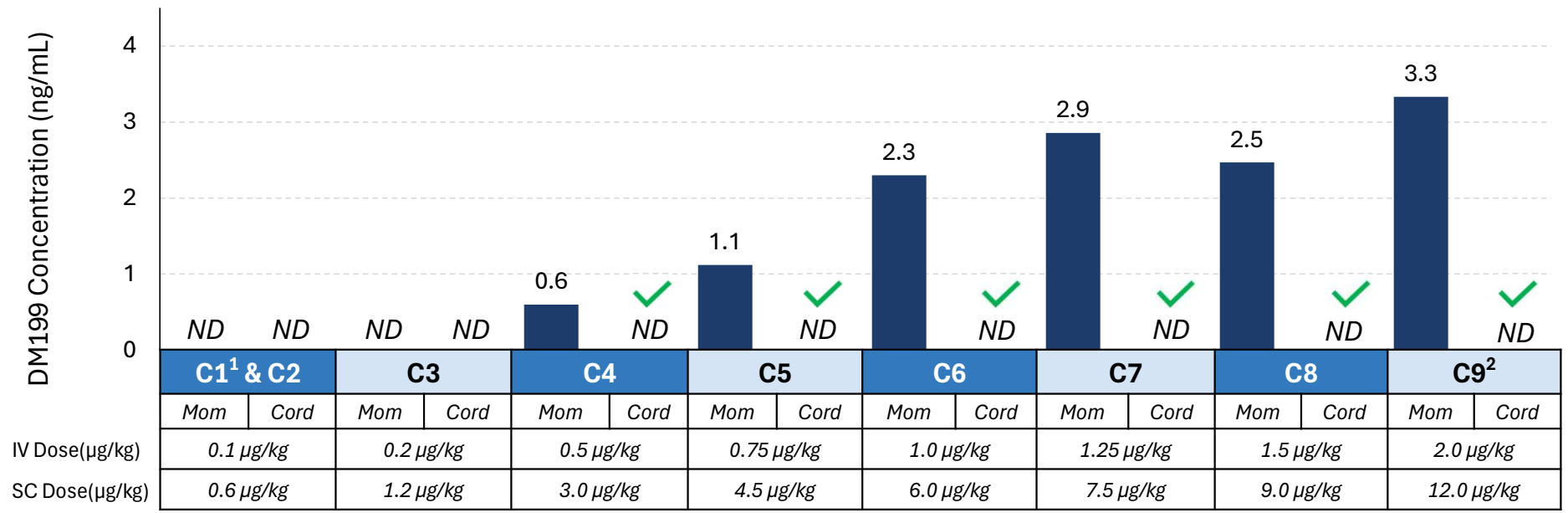
> ~80% of deliveries occurred within 24 hours

Characteristics	DM199 n(%)
Vaginal delivery	9 (32)
Cesarean section	19 (68)
Time to delivery	
<2 hours	1 (4)
<4 hours	3 (11)
<8 hours	9 (32)
<12 hours	16 (57)
<24 hours	22 (79)
≥24 hours	6 (21)
Received balloon catheter	14 (50)
Received prostaglandins	9 (32)
Received oxytocin	11 (39)

# DM199 Was NOT Detected in Umbilical Cord Blood in Any Dose Cohort

- At delivery, DM199 was not detected in any cord blood samples, while a clear dose-dependent increase in DM199 was observed in maternal plasma.
- Data suggests DM199 does **not cross the placental barrier**, a potentially unique safety advantage.

**Average Plasma DM199 Concentrations (Maternal and Cord Blood Samples At Delivery)**



ND: Non-detectable concentrations – lower limit of quantification is <0.5 ng/mL IV= Intravenous SC=Subcutaneous

1. Did not receive SC dose  
 2. Data cut for placental transfer was 6/27/25 to allow for sample shipment and analysis. Results for the final C9 patient, enrolled on 7/1/25, are not available

## DM199 Was Generally Safe and Well Tolerated

> No serious TEAEs were reported in response to any dose

### Maternal Treatment-Emergent Adverse Events

TEAE	N=28 [n(%)]	Dose Cohorts
Nausea	4 (14%)	C8 (n=2), C9 (n=2)
Headache	3 (11%)	C3 (n=1), C6 (n=2)
Flushing	2 (7%)	C6 (n=1), C9 (n=1)

### Expected Events Of Preeclampsia (per protocol definition)

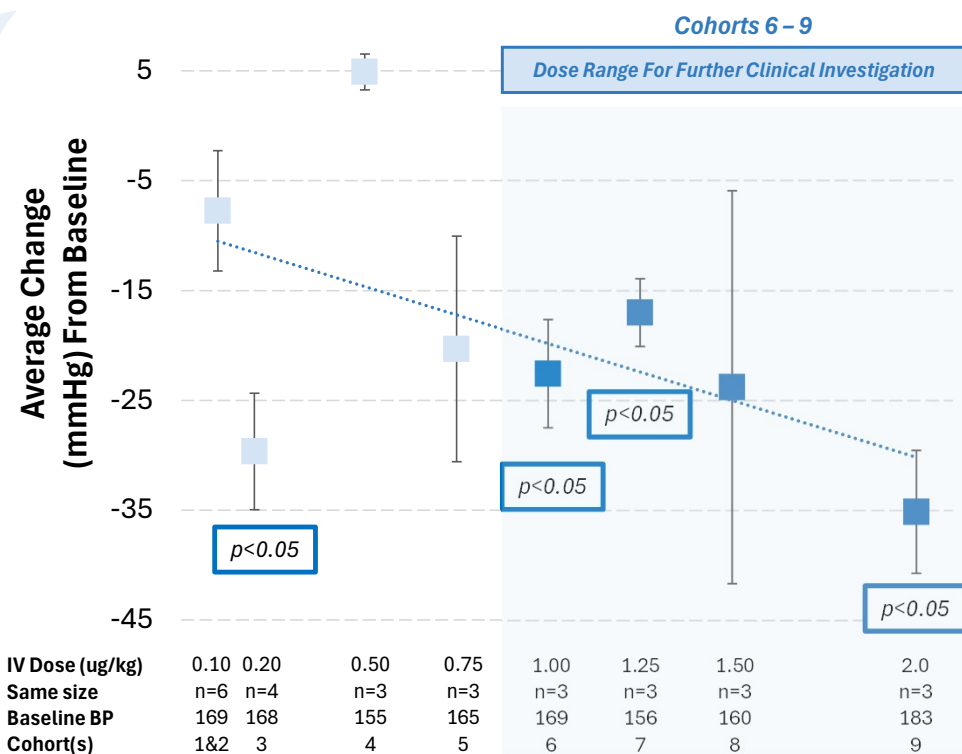
Expected Event	N=28 [n(%)]	Dose Cohorts
Postpartum Hemorrhage	4 (14%)	C3 (n=2), C4 (n=1), C8 (n=1)
Eclampsia	1 (4%)	C1
HELLP Syndrome	1 (4%)	C4
Pulmonary Edema	1 (4%)	C9

- > No events of hypotension;
- > No patient paused or discontinued treatment;
- > No induction of early labor

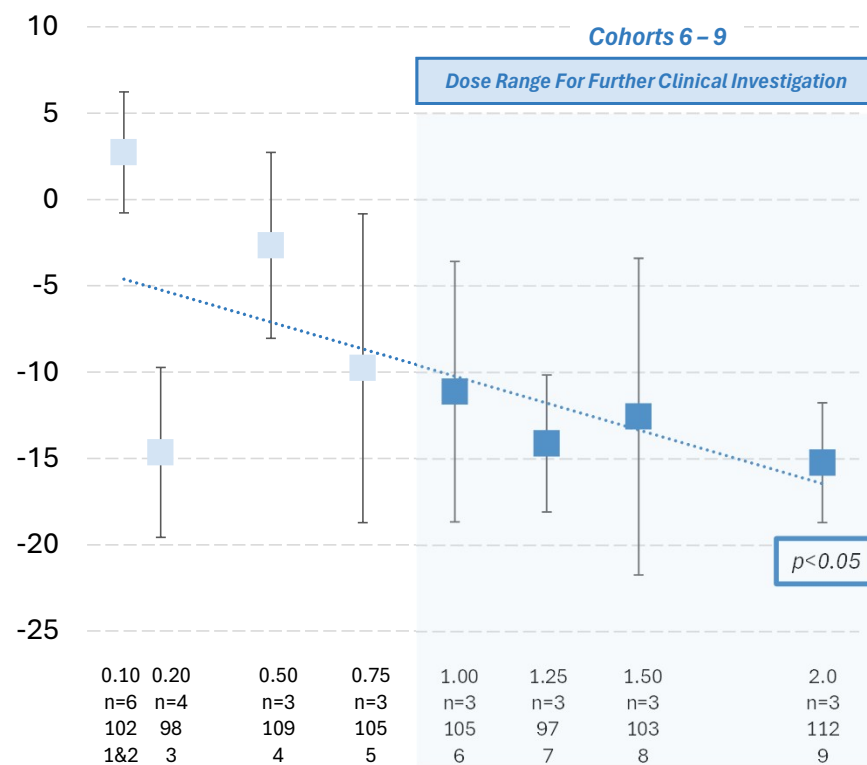
# Blood Pressure Was Reduced at Prespecified 5-Minute Post-Infusion Endpoint

Pooled Cohorts C6–C9 achieved statistically significant reductions in SBP (-25 mmHg) and DBP (-13 mmHg)

## Systolic



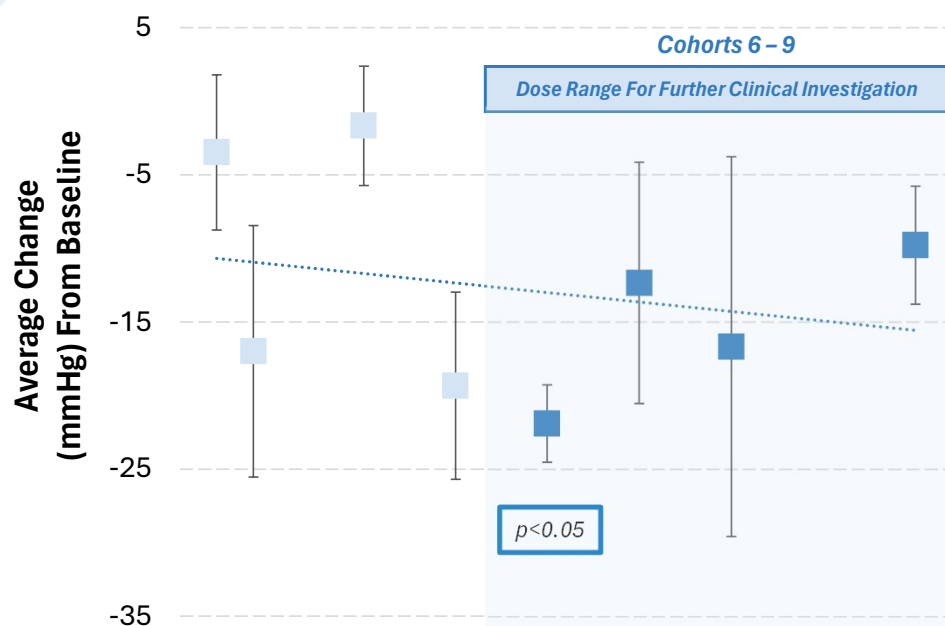
## Diastolic



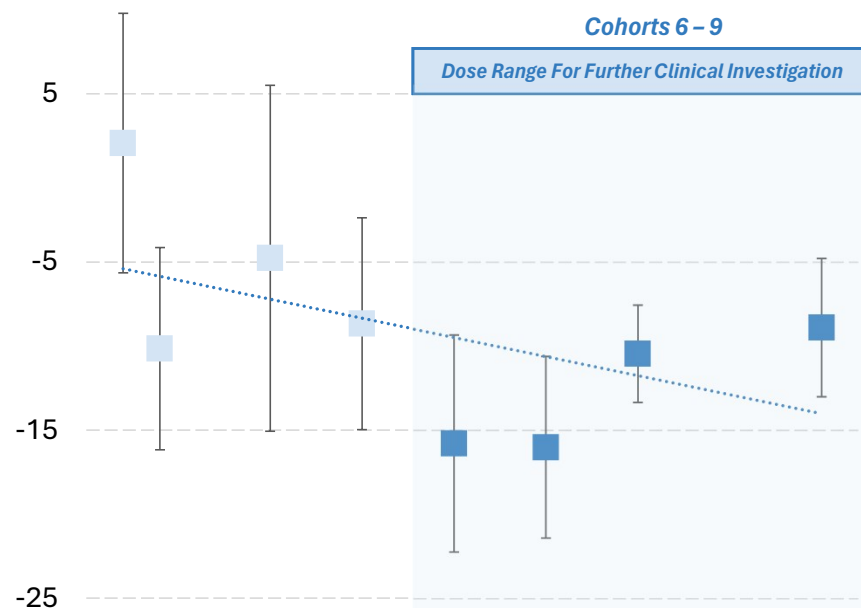
# Blood Pressure Was Reduced at Prespecified 30-Minute Post-Infusion Endpoint

Pooled Cohorts C6–C9 achieved statistically significant reductions in SBP (-15 mmHg) and DBP (-13 mmHg)

## Systolic



## Diastolic



IV Dose (ug/kg)	0.10	0.20	0.50	0.75	1.00	1.25	1.50	2.0
Same size	n=5	n=4	n=3	n=3	n=3	n=3	n=3	n=3
Baseline BP	163	168	155	165	169	156	160	183
Cohort(s)	1&2 <sup>1</sup>	3	4	5	6	7	8	9

IV Dose (ug/kg)	0.10	0.20	0.50	0.75	1.00	1.25	1.50	2.0
Same size	n=5	n=4	n=3	n=3	n=3	n=3	n=3	n=3
Baseline BP	97	98	109	105	105	97	103	112
Cohort(s)	1&2 <sup>1</sup>	3	4	5	6	7	8	9



Mean ± SEM presented | Paired T-test vs. baseline | best-fit line based on mean values

No patients received short-acting BP meds during these time points

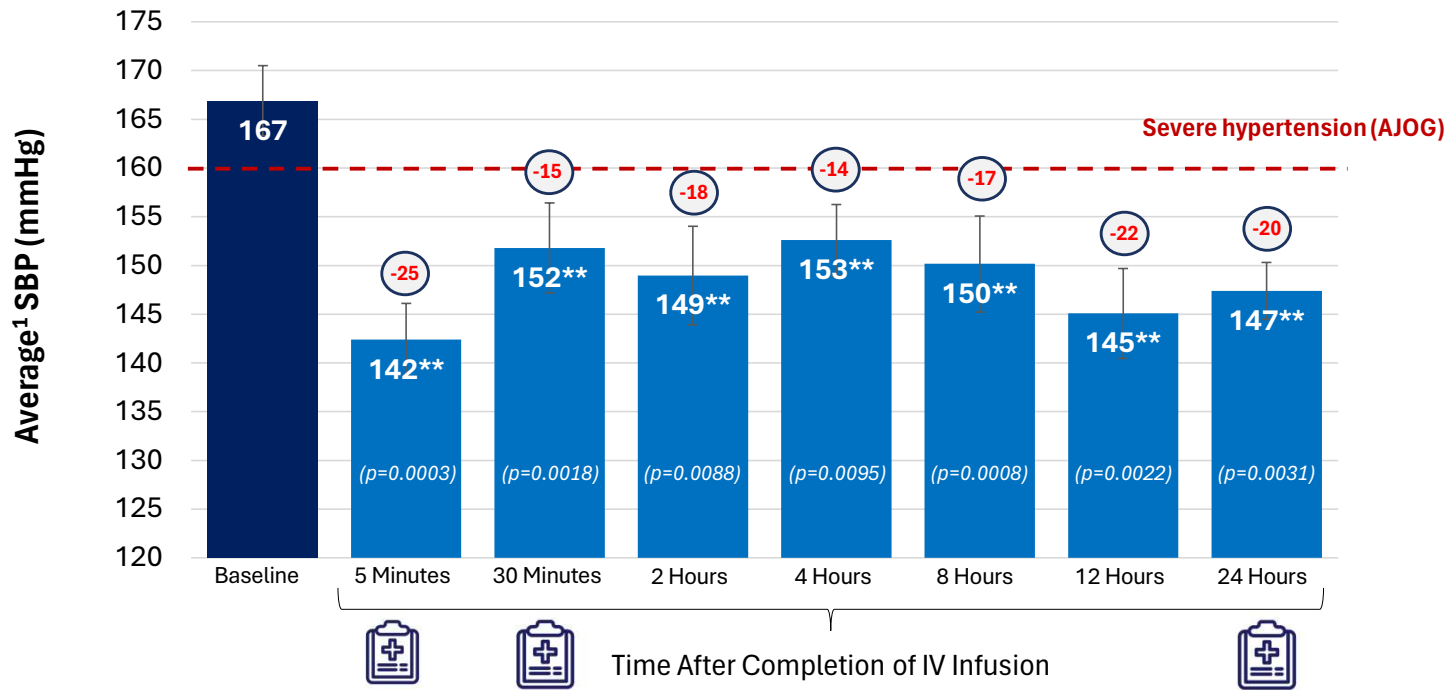
1. Excludes Patient 1 due to delivery occurring 15 minutes after infusion completion (emergency c-section)

# DM199 Drove Statistically Significant Systolic Blood Pressure Reduction

Pooled Analysis of Cohorts 6 to 9

1.0-2.0 µg/kg IV (Cohorts 6-9) n=12<sup>2</sup>

Systolic Blood Pressure



Mean ± SEM presented | Paired T-test vs. baseline: \*p<0.05 | \*\*p<0.01

1. Average of three consecutive readings per timepoint

2. Patients in cohorts 6-8 (n=9) did not receive any short-acting antihypertensive medications after DM199 administration. Patients in cohort 9 (n=3) received short-acting BP medications at various time points after the 30-minute measurement but prior to the 24-hour assessment.

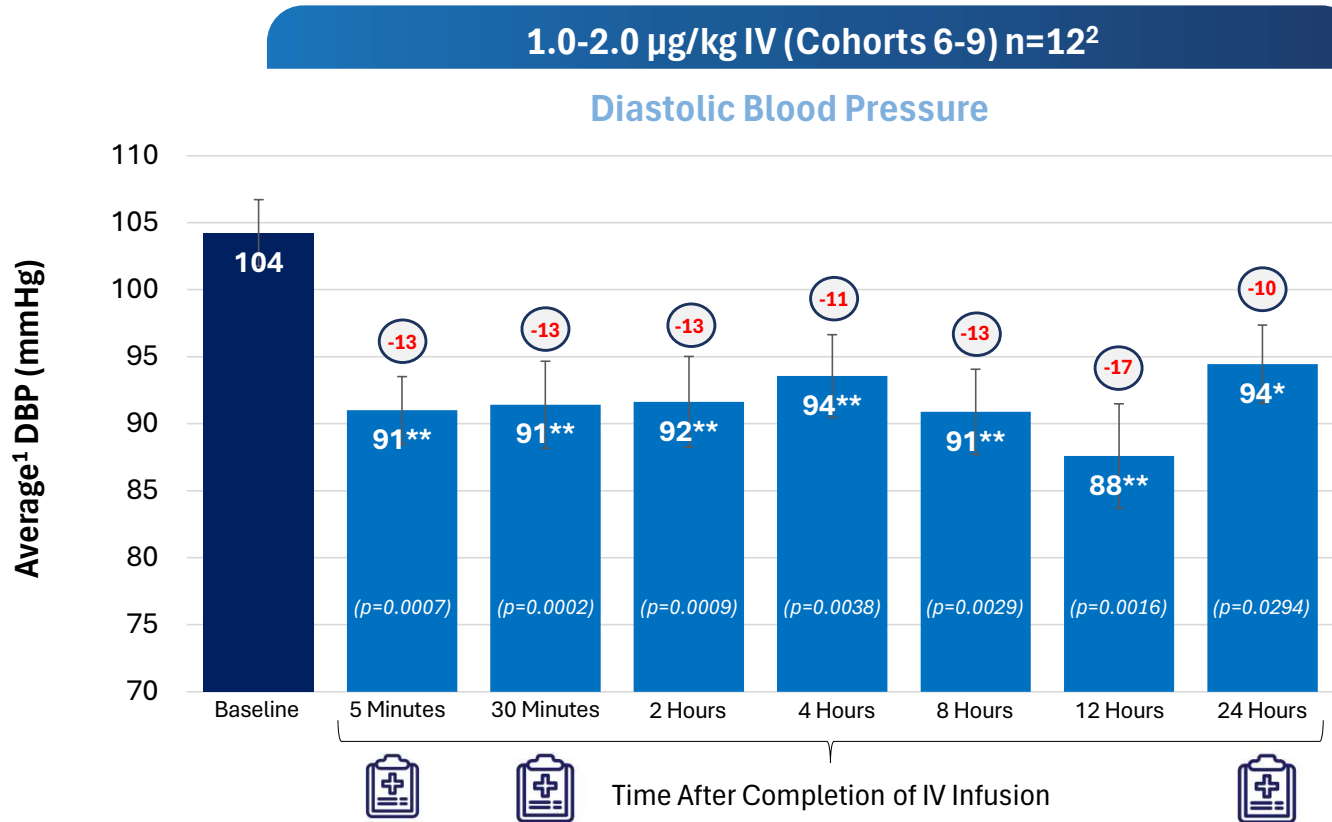
Note: measurement timepoints presented as scheduled. Actual measurement times varied



Prespecified Primary Endpoint

# DM199 Drove Statistically Significant Diastolic Blood Pressure Reduction

Pooled Analysis of Cohorts 6 to 9



Mean ± SEM presented | Paired T-test vs. baseline: \*p<0.05 | \*\*p<0.01

1. Average of three consecutive readings per timepoint

2. Patients in cohorts 6–8 (n=9) did not receive any short-acting antihypertensive medications after DM199 administration. Patients in cohort 9 (n=3) received short-acting BP medications at various time points after the 30-minute measurement but prior to the 24-hour assessment.

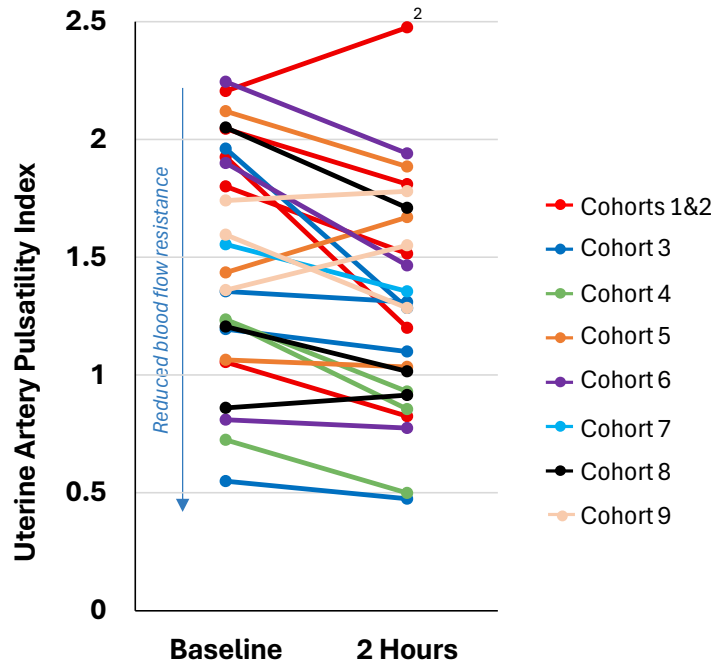
Note: measurement timepoints presented as scheduled. Actual measurement times varied



Prespecified Primary Endpoint

# DM199 Reduced Uterine Artery Resistance, Suggesting Enhanced Placental Perfusion

## Overall<sup>1,2</sup> (n=25)



Geomean % Change <sup>1</sup>	-13.2%
P-value <sup>1</sup>	0.0003

- > Dilation of the uterine arteries was assessed by Doppler ultrasound at baseline and two hours after IV infusion
- > 13.2% average reduction in blood flow resistance was observed across cohorts (p=0.0003), **suggesting DM199 increased perfusion to the placenta**

**Improved perfusion may reduce placental hypoxia, supporting fetal growth and disease modification**

## Summary Remarks

- ✓ DM199 is emerging as an exciting potential therapeutic option for **both preeclampsia and fetal growth restriction**
- ✓ DM199 appears to be **generally well tolerated** across broad exposure levels, and **does not cross the placental barrier**
- ✓ Early signals of **improved placental perfusion** suggest the potential for true **disease modification**
- ✓ **Robust, durable blood pressure reductions** provide broader clinical relevance, **indicating endothelial protection**—the key driver of maternal disease
- ✓ Ongoing **dose optimization** is expected to **further strengthen** DM199's profile as it advances into U.S. clinical trials next year

# Next Steps for the Phase 2 Trial



## Next Phases of Preeclampsia IST Following Part 1A Completion

All parts can enroll concurrently

### Part 1b (n=30)

#### Planned Delivery in 72 Hrs.

- Recruiting the same population as Part 1A: women with planned delivery within 72 hours and SBP >150 mmHg (27 – 42 weeks GA)
- Participants will receive a single IV/SC dose on Day 1, using the dose identified in Part 1A (no additional doses)
- Primary endpoints: Safety\* and lowering blood pressure

### Part 2 (n=30)

#### Expectant Management

- Recruiting women with early onset preeclampsia (GA 27+0 to 32+6) who are candidates for expectant mgmt. (prolongation)
- Participants will receive an initial IV/SC dose on Day 1, followed by repeated SC doses until delivery
- Primary endpoints: Safety\*, prolongation, change in UACR, need to increase/decrease antihypertensive agents

### Part 3 (n=30)

#### Fetal Growth Restriction

- Recruiting women with early onset FGR (GA 27+0 to 32+6), defined as fetal growth <3<sup>rd</sup> centile, who do not have preeclampsia
- Participants will receive an initial IV/SC dose on Day 1, followed by repeated SC doses until delivery
- Primary endpoints: Safety\*, changes in uterine, ophthalmic, and fetal Dopplers, and birthweight centile

# Fetal Growth Restriction: DM199's Indication Expansion

Strong mechanistic rationale based on Interim Part 1a PE data

## > Fetal Growth Restriction is a Major Unmet Medical Challenge

- Placental insufficiency—particularly impaired uteroplacental blood flow—is a core pathophysiologic driver of FGR
- **No approved therapies** to directly treat FGR; current management is limited to monitoring and early delivery
- The Pulsatility Index (PI) in uterine and umbilical arteries is a core diagnostic and prognostic biomarker and is directly correlated with fetal oxygen/nutrient delivery



## > DM199 Offers the Potential to Improve Uteroplacental Blood Flow

- Like preeclampsia, FGR is often marked by abnormal uterine artery Doppler waveforms:
  - Elevated PI
  - Absent or reversed end-diastolic flow
- DM199 has been shown to dilate intrauterine arteries, resulting in:
  - Improved uteroplacental perfusion
  - Reduced vascular resistance, as quantified by the Pulsatility Index



**DM199's efficacy in lowering PI in preeclampsia patients supports its potential in FGR—especially early-onset forms**



# Thank You!

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