

# B7-H3 Universal CAR-T (MT027) for Refractory Lung Cancer Brain Metastases: Preliminary Phase I IIT Results

Updated exploratory analysis of seven adults with solid-tumour brain metastases, including lung and breast primary tumours

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Rationale & objective

Patients with recurrent brain metastases after radiotherapy and CNS-active systemic treatment have few options. Local CSF delivery may improve access to multifocal CNS disease while limiting the required cell dose.

OBJECTIVE

Characterise repeated ICV delivery, safety, exploratory intracranial activity and CSF/blood PK/PD across two initial-dose cohorts.

Study design & delivery

Repeated intracerebroventricular administration

CAR-T

Ommaya

CSF

3 x 10<sup>7</sup> CAR+ T cells

Initial-dose cohort • n = 4

6 x 10<sup>7</sup> CAR+ T cells

Initial-dose cohort • n = 3

Single-centre • open-label • single-arm phase I IIT • 3+3 dose escalation • data cut-off 21 Aug 2026

Treated cohort

7

treated adults

64

median age (44–70)

6/7

multiple CNS lesions

5/7

lung primary

Primary tumour

3

2

2

Lung adenocarcinoma

Small-cell lung cancer

Breast cancer

Safety by initial dose

Severe treatment-related and immune-effector toxicities

Grade ≥3 TRAE

Related SAE

DLT

Confirmed CRS

Confirmed ICANS

0/4

0/4

0/4

0/4

0/4

0/3

1/3

1/3

1/3

1/3

At 6 x 10<sup>7</sup>, R001006 developed a grade 4 treatment-related SAE/DLT with multiorgan dysfunction after the first dose; the patient recovered from the acute event.

Common all-cause TEAEs: pyrexia 7/7 • fatigue 7/7 • headache 6/7 • vomiting 5/7

Overall survival and vital status

Time from first MT027 administration

4 alive / 3 deaths

R001

R002

R005

R007

R006

R004

R003

12.02+ alive

10.02+ alive

7.13+ alive

4.24+ alive

3.88 death

2.60 death

2.07 death

Overall survival (months)

Initial 3 x 10<sup>7</sup> Initial 6 x 10<sup>7</sup>

Data cut-off: 20–21 Aug 2026

Exploratory intracranial activity

Five patients had serial measurable-lesion data

Best post-baseline change (%)

-72.0% Provisional PR R002

-45.0% SD R001

-12.5% SD R005

+36.1% PD R006

+63.3% PD R007

1 provisional PR • 2 SD • 2 PD among 5 evaluable patients

Source-derived bipерpendicular calculations; no central review. R001002 requires response confirmation. R001007 later reached +147.9% on 22 Jun 2026.

Patient-level CSF and blood PK/PD

Maximum CSF CAR

Maximum blood CAR

Maximum CSF IL-6

6 x 10<sup>7</sup> did not increase median maximum CSF CAR, but showed higher peripheral CAR detectability and higher median CSF IL-6.