CM-09, a first-in-class antibody-drug-conjugate for metastatic gastric, pancreatic and prostate cancers

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About CureMeta

- We are a Boston-based biotech company, founded in 2012 with $8.6 Million raised to date: Our R&D is focused on developing antibodies and Antibody-Drug-Conjugates (ADC) cancer therapeutics to novel cancer targets.

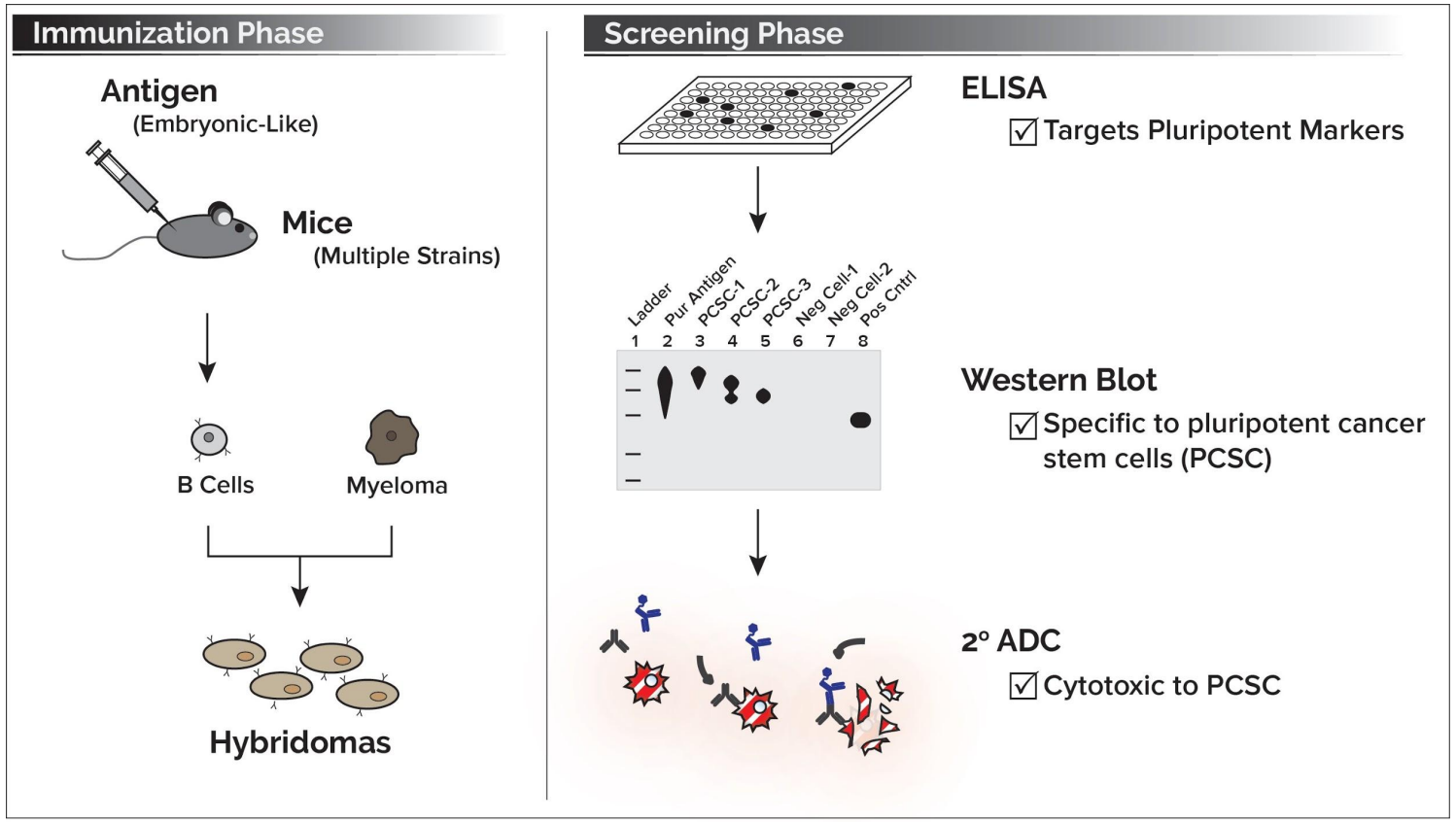
- Our drug development strategy is centered around protein and carbohydrate-based embryonic cancer targets which are not present in normal healthy tissues but are abundantly present in aggressive and metastatic cancers due to oncogenic cellular reprogramming.

- We have developed a proprietary and productive research discovery platform and have generated a series of new therapeutic antibodies (patents filed on 11 sequenced antibodies): Our lead therapeutic ADC is **CM-09.**

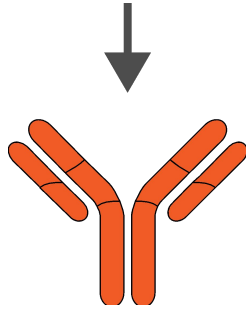
- **CM-09** has the potential to be a groundbreaking new cancer drug as a meaningful and effective therapeutic treatment for patients with advanced and metastatic solid-tumor cancers.

CureMeta's Antibody Drug Development Platform

CureMeta has developed a proprietary approach to develop new drugs for metastatic cancers by targeting reprogrammed/embryonic-like cancer cells with novel and potent therapeutic Antibody-Drug-Conjugates



Our platform generates monoclonal antibodies that are highly specific and reactive to embryonic cancer targets expressed in advanced and metastatic cancers



To date, 11 antibodies patented, lead antibody therapeutic is Bstrongximab (US Patent issued) and lead cancer antibody-drug-conjugate therapeutic is CM-09 (US Patent issued)

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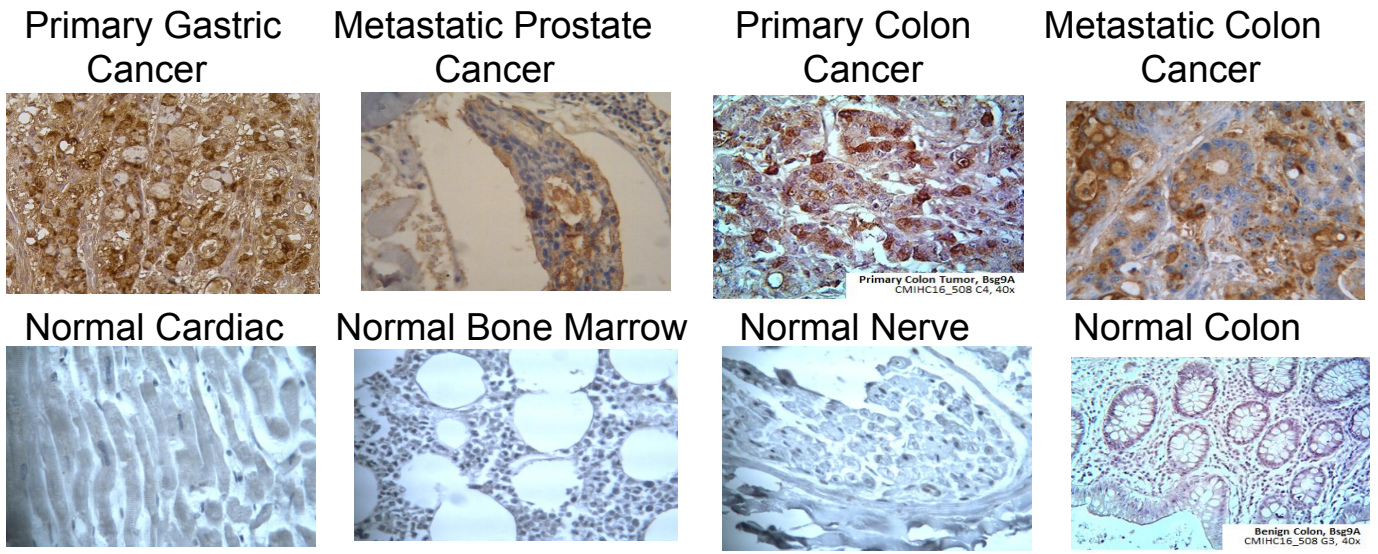
Bstrongximab: Our Lead Antibody Targeting TRA-1-60

- **Bstrongximab** is CureMeta's lead cancer therapeutic antibody
    - IgG1 antibody with very high specificity/affinity to TRA-1-60
    - Bstrongximab is human/mouse chimeric version of the mouse monoclonal antibody Bstrongomab
- **CM-09** is CureMeta's lead therapeutic antibody-drug-conjugate
    - Bstrongximab monoclonal antibody
    - Mono-Methyl Auristatin E / valine-citrulline dipeptide linker
    - HIghly stable and efficient ADC
- **TRA-1-60** is an embryonic stem cell specific carbohydrate
    - highly expressed on all human embryonic stem cells
    - no expression upon stem cell differentiation
    - **NOT** or very limited expressed in normal health tissues
    - a type 1 poly lactosamine post-translational glycosylation of the cell surface membrane protein Podocalyxin: a protein with cell adhesions and cellular motility functions

Bstrongximab Targets Cancer but Not Normal Tissue

- **Bstrongximab** binds to **TRA-1-60 - a cell surface carbohydrate-based embryonic cancer target** present on cancer due to oncogenic cellular reprogramming - a biological process that causes cancer cells to become undifferentiated, more cancerous and more aggressive, thus acquiring the ability to metastasize.
    - **TRA-1-60** is present in cancer but is **NOT** present in most normal tissues including cardiac, bone marrow, nerve and has extremely low expression in a few tissues.
    - Recently published independent cancer studies have demonstrated **TRA-1-60** as a novel cancer target.



Note: Brown color indicates presence of **TRA-1-60**

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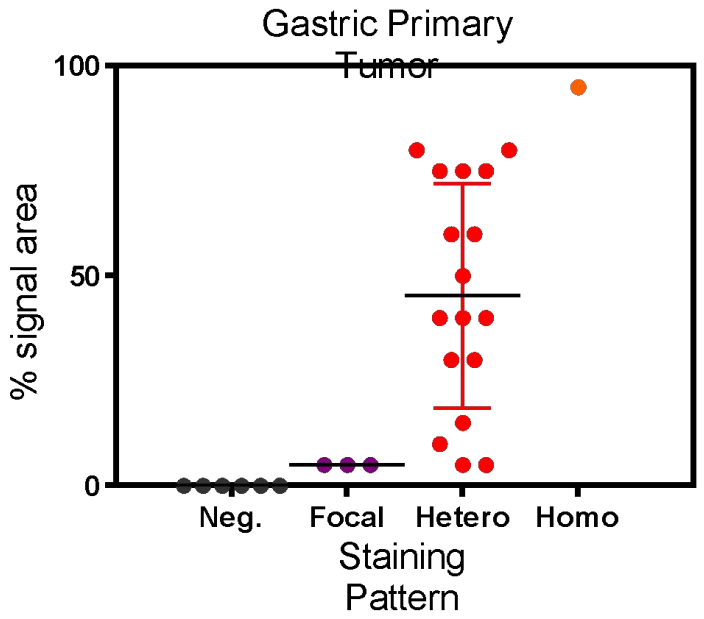
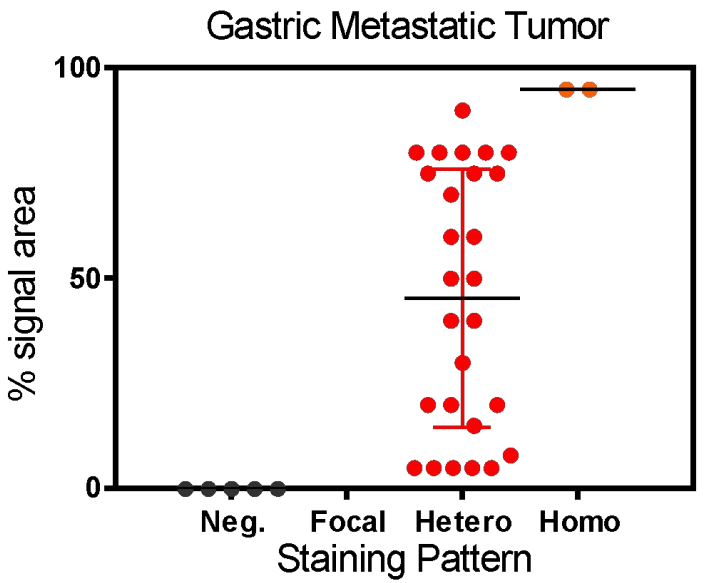
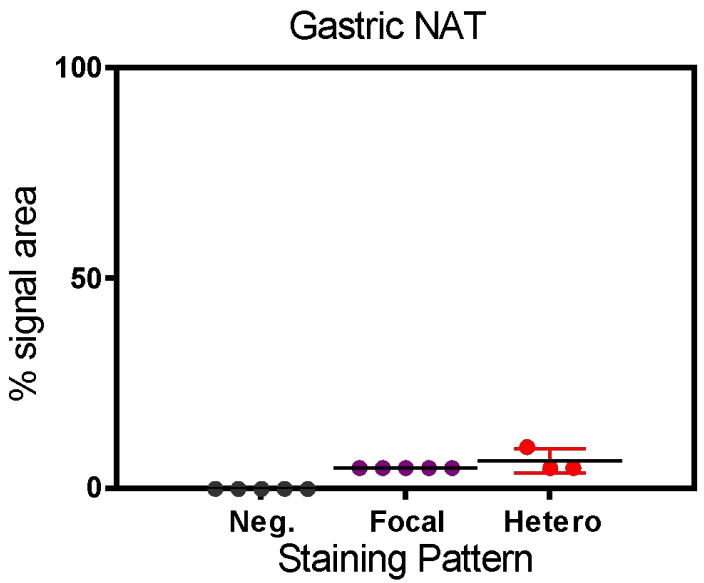
TRA-1-60 is a Target in Gastric Cancer

Metastatic Gastric Carcinoma Tissue Array (31 cases, 74 tissues)
Bstrongomab IHC staining studies of TRA-1-60 expression in primary gastric cancer, metastatic gastric cancer and normal gastric tissue







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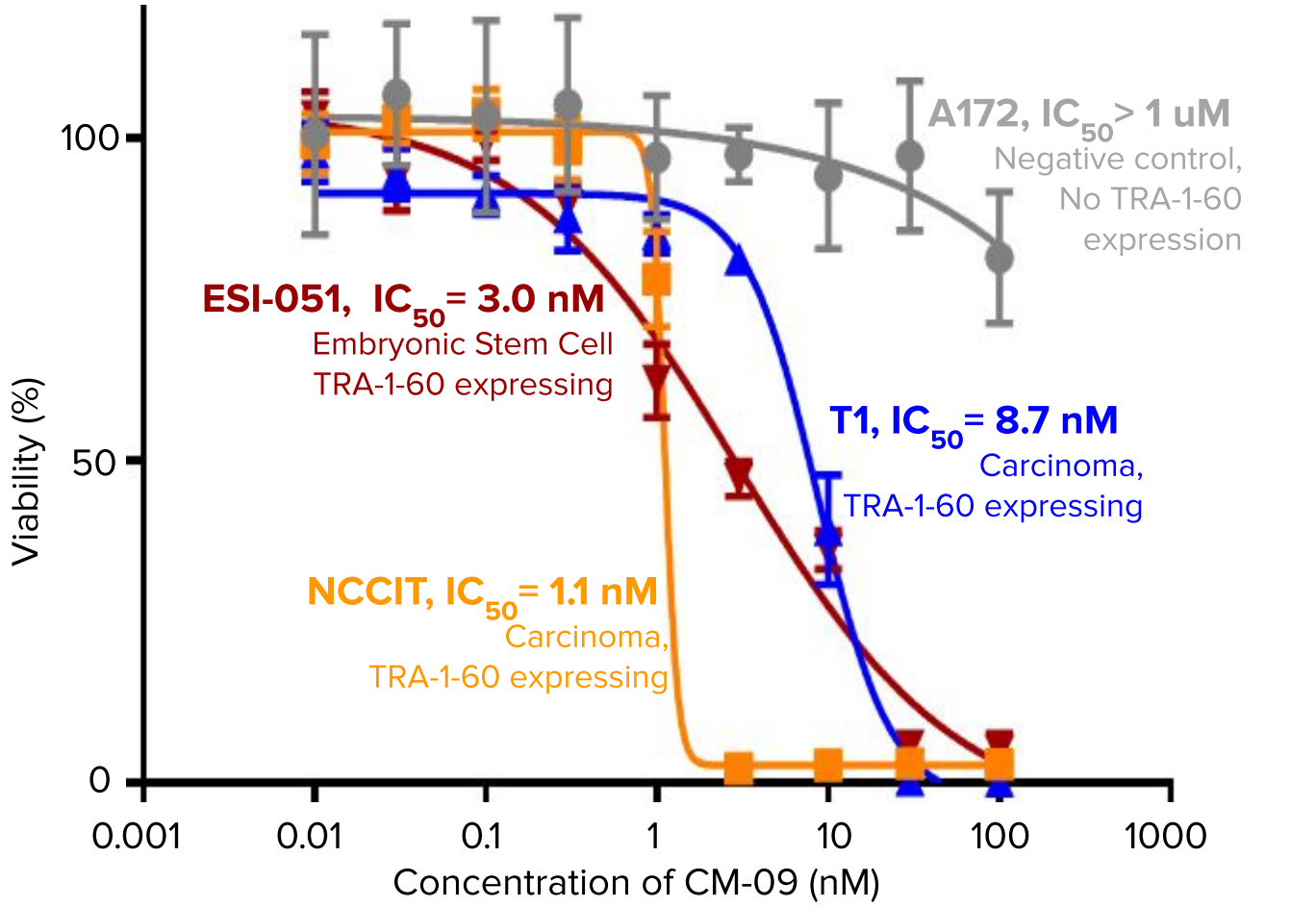
CM-09 Attacks and Kills TRA-1-60 Positive Cancer Cells

- **CM-09** is a human chimeric IgG1 monoclonal antibody cleavable peptide linker (MC-Val-Cit-PAB) and anti-mitotic payload MMAE (Monomethyl auristatin E). Linker and payload also used in the first FDA approved ADC, Adcetris by Seattle Genetics).
- **CM-09** kills cancer cells with the TRA-1-60 cancer target in a dose dependent manner but has no effect on TRA-1-60 negative cells.
- **CM-09** has been **validated in vitro** as potent and selective cancer drug candidate.

CM-09 Kills TRA-1-60 Expressing Cancer and Embryonic cells



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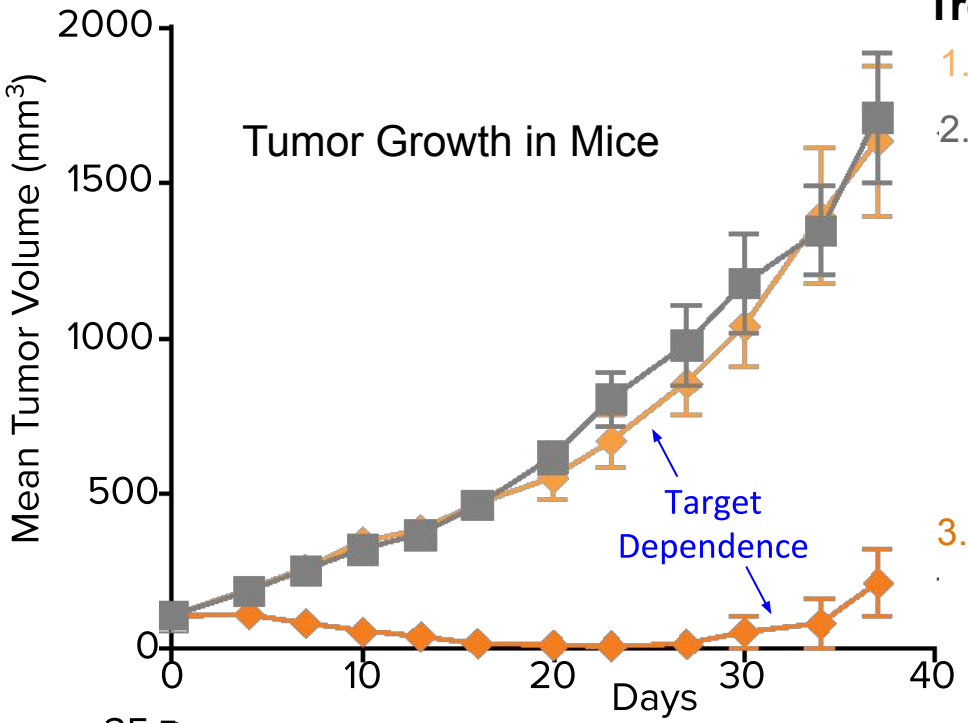
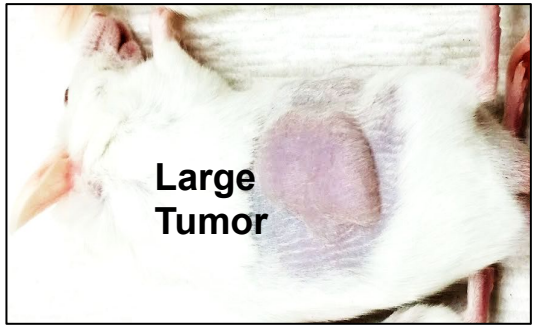
CM-09 is Potent Drug in Human Cancer Mouse Models

- Mice implanted with TRA-1-60 positive human embryonal carcinoma cells (NCCIT?) treated with control drugs (Iso-control IgG, Saline) or **CM-09.**
- Graph shows tumor volume for 40 days after starting the treatments and **CM-09** inhibits tumor growth in target dependent manner in a carcinoma xenograft mice model.
- **CM-09** has been **validated in vivo** as a cancer drug candidate.

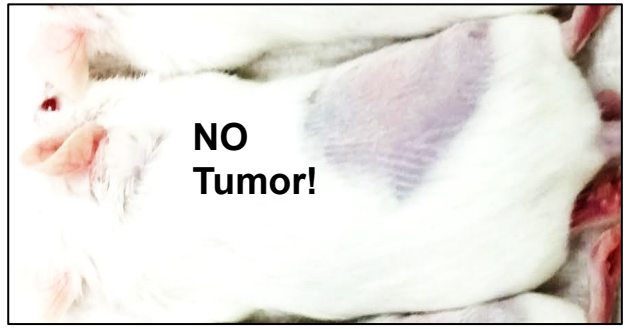


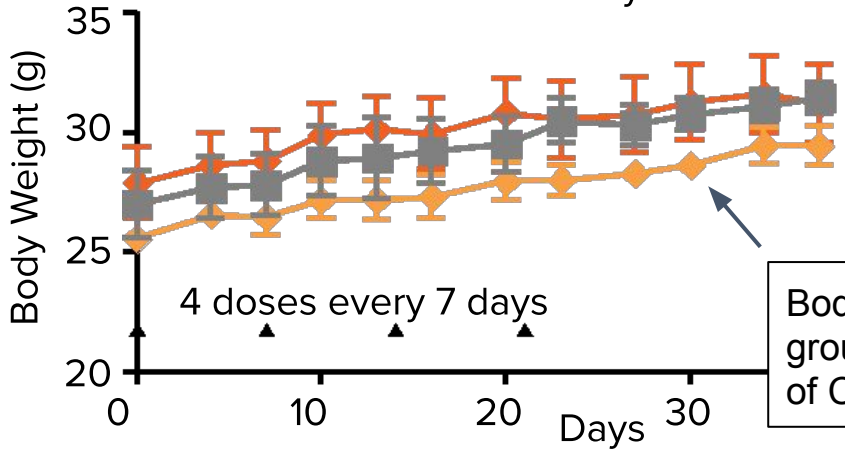
Treatment groups (n=5)

1. Iso-control IgG
2. Saline



3. CM-09 Treatment





Body weights identical in all treated groups indicating no toxicity effects of CM-09 to the animals

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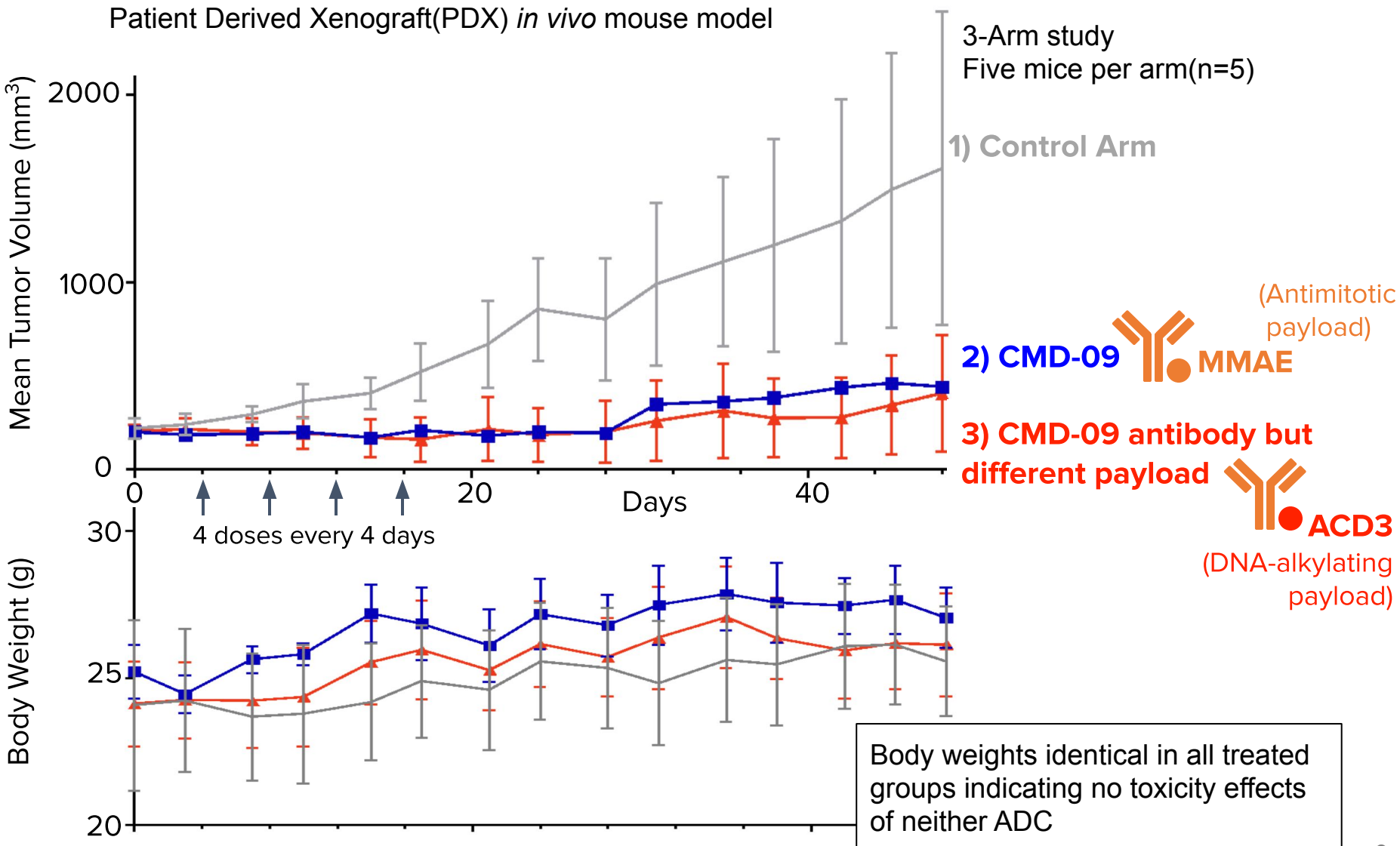
Proof-of-Concept: CM-ADCs Activity in Gastric cancer *In Vivo* PDX models

CM-09 with the MMAE payload (antimitotic mechanism) and CM-ACD3 with payload (DNA-alkylating mechanism) both show compelling and significant activity in human gastric cancer mouse PDX models



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Intellectual Property and Trade Secrets

- Composition of Matter Patent with CM-09 antibody (WO 2017/160725 PCT US 2017/022109)
  - (**US Patent Issued 12/17/2019**)
    - Covers Bstrongximab as Therapeutic monoclonal antibody for cancer
    - Covers Bstrongximab as Antibody-Drug-Conjugate
    - Patents filed covering all major markets (US, EU, Japan, Republic of Korea, BRIC and Australia)
    - Solid IP position for CM-09 antibody patents with coverage until 2037
- Patents filed covering 11 sequenced antibodies in CureMeta's new cancer target discovery pipeline
- Trade Secrets
    - Platform for developing IgG antibodies to metastatic cancer targets
    - Methods for preparing and isolating new cancer targets
    - Unique and proprietary hybridoma screening format for generating high-affinity/specificity antibodies
- Freedom to operate using FDA-approved Seattle Genetics Antibody-Drug-Conjugate linker and payload to manufacture CM-09
    - Cleavable peptide linker (MC-Val-Cit-PAB) and payload MMAE (Monomethyl auristatin E)

Summary

- CureMeta has develop a unique antibody-development platform to create powerful antibodies to novel cancer targets found in aggressive and metastatic cancers but not in normal tissues. We have a robust pipeline with 11 sequenced antibodies to date. Our lead therapeutic antibody is **Bstrongximab**.

- **Bstrongximab** has good clinical potential in other immunology-oncology arenas including bispecific antibodies, CAR-T and ADCC/CDC approaches.

- The cancer-specific target TRA-1-60 presents a strong clinical opportunity for a targeted therapeutic approach with our lead cancer drug **CM-09:** the target is novel and is not in normal tissue.

- Pre-clinical data demonstrates the potential of **CM-09** to successfully treat many aggressive forms of cancer for which there is currently a high mortality rate and a tremendous unmet need for new therapies.

- The safety profile of **CM-09** is expected to be excellent since the target is not in normal tissues.

- **CM-09** has the potential to be a leading and transforming oncology drug for the treatment of cancer.