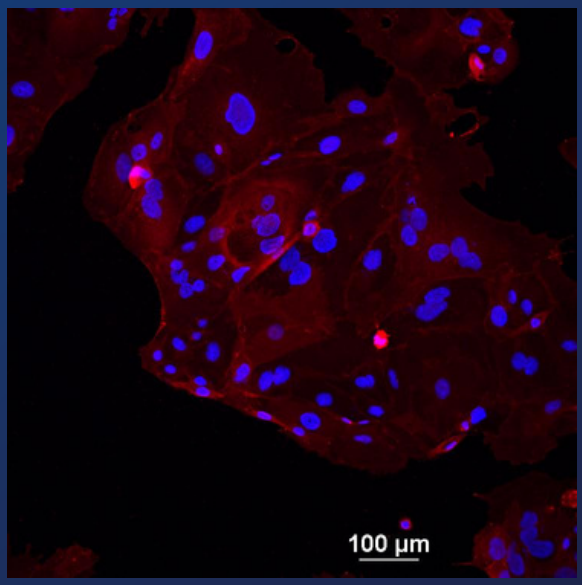
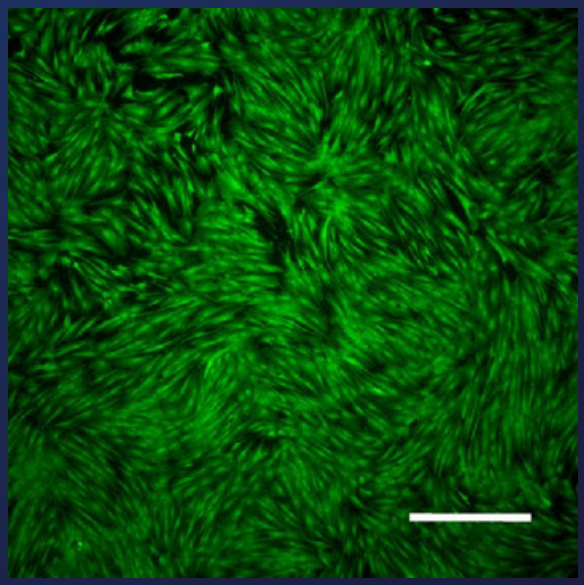
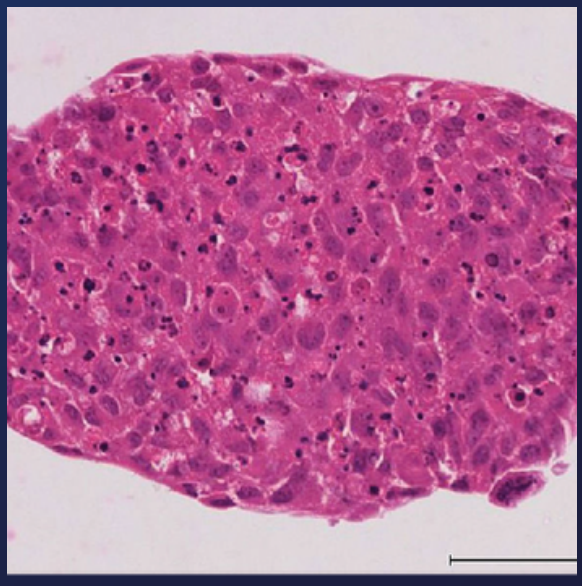
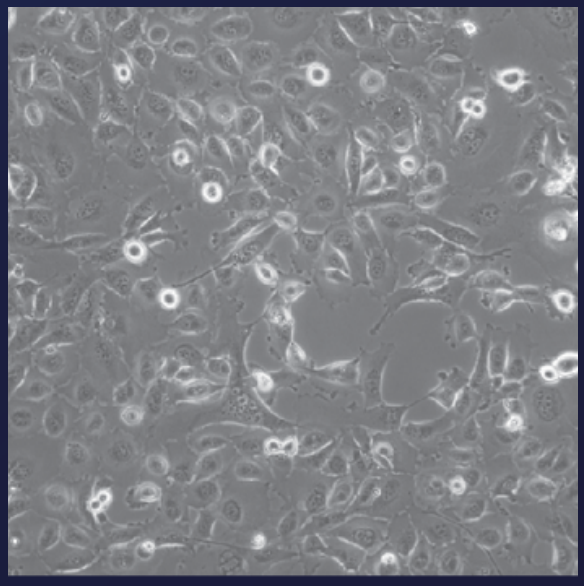
PLASMAX™ : CELL CULTURE MEDIA TO STUDY CANCER BIOLOGY

Discover a new physiologically relevant cell culture medium which mimics the metabolic and physiological profile of human plasma.









Built by and for cancer researchers

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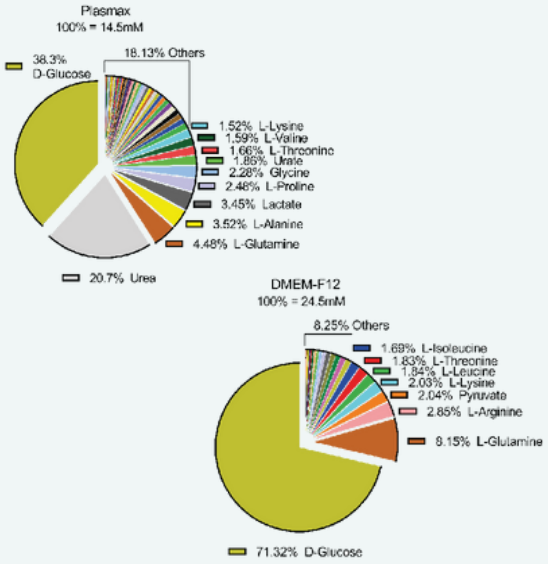
Global Research Tools Collaborative

Plasmax™ is a pre-prepared media, painstakingly developed to give the best possible representation of in vivo conditions and with the benefits of consistency, reproducibility and quality control that can give you confidence in your results.

Physiologically relevant to the *in vivo* cell environment

Plasmax™ contains nutrients utilised by cells *in vivo* at concentrations present in human plasma.

- Allows cell-type-specific metabolism and proportional uptake of nutrients in comparison to traditional media.
- Plasmax™ reverses the direction of a urea cycle reaction catalysed by arginosuccinate lyase.
- Incubation of cancer cells in Plasmax™ prevents pseudo-hypoxia, a phenomenon generally seen in cells cultured with traditional media.

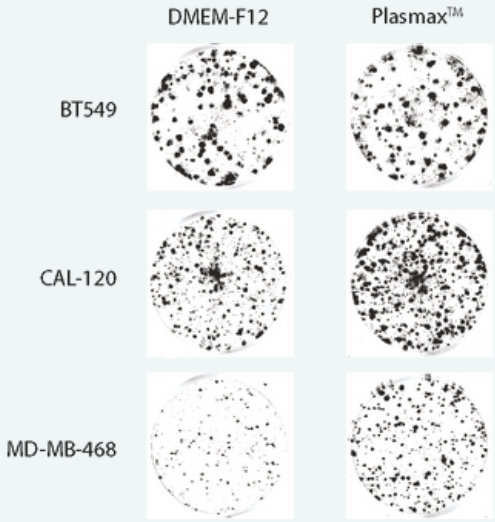


Comparison of the formulation of Plasmax Voorde et al., 2019 Sci Adv. Jan 5(1).

Designed to improve the metabolic fidelity and biological relevance of *in vitro* cancer models

Metabolic profiles of cells grown in Plasmax™ are distinct from those grown in DMEM-F12.

- Plasmax™ -cultured cells have a metabolic profile comparatively far closer to that of orthotopic xenografts.
- Such effects are apparent after only four days of incubation.
- Plasmax™ can rectify non-physiological metabolic profiles induced by conventional media.

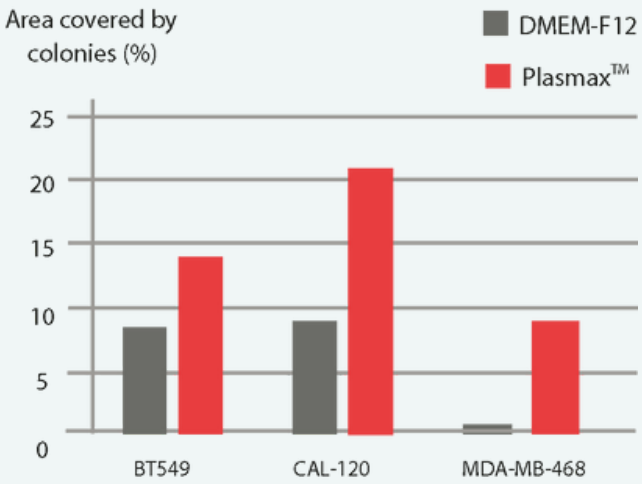


Quantification of a colony formation assay Performed with BT549, CAL-120, and MDA-MB-468 cells preincubated (2 days with Plasmax™ and incubated (12 days) with DMEM-F12 or Plasmax as indicated. Vande Voorde et al., 2019 Sci Adv. Jan 5(1).

Enhanced colony formation

Cells grown in Plasmax™ have enhanced colony forming capacity and better approximate the metabolic profile of tumours.

- Selenium in the form of sodium selenite increases the antioxidant capacity of cells.
- Overall colony number and growth of low-density plated Triple Negative Breast Cancer (TNBC) cell lines is increased when incubated in Plasmax™

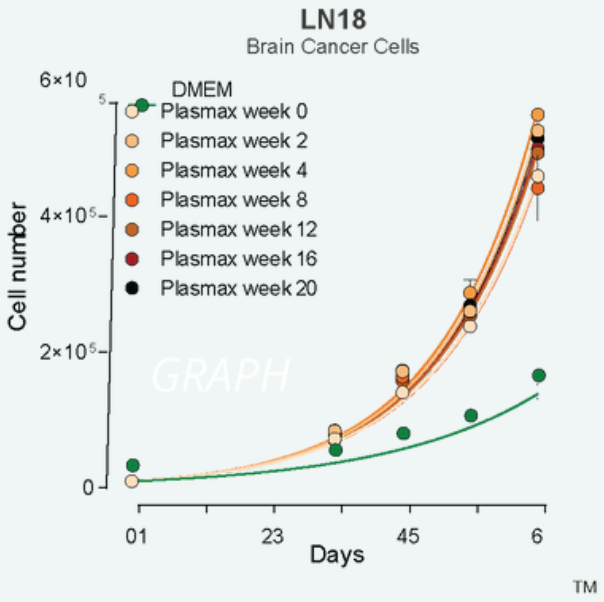


Colony forming assays quantification performed on three triple negative breast cancer cell lines pre-incubated (2 days), seeded at 500 cells per well (n=3) and incubated (12 days) with DMEM-F12 or Plasmax. Vande Voorde et al., 2019 Sci Adv. Jan 5(1).

Batch-to-batch consistency at scale

Get consistency across results by using a standardised cell culture media to study cancer biology.

- Eliminate the need to tailor traditional cell media to *in vitro* cancer models by adding additional components.
- Plasmax™ maintains effectiveness throughout its shelf life, with no effect on cell growth from aged Plasmax™
- Cancer cell lines cultured in Plasmax™ in comparison to traditional media, aged up to 20 weeks, demonstrate higher cell density. Refer to the corresponding figure.



LN18 cells were cultured in 2ml/well of DMEM or Plasmax Plasmax media was either prepared on day0 from frozen stock components (Plasmax week 0) or left at 4oC for up to 20 weeks (plasmax week 2-20). Tardito Group, 2020 (unpublished data)

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Boston, MA02110

Top left image - Human trophoblast stem cells (hTSC) cultured in Plasmax™- based medium. (Adopted from Avellino et al. 2023, Figure1 H).
Top right image - Normal Human Dermal Fibroblasts (HDFn) cells cultured in Plasmax™ (Credit to Dr. Ruhi Deshmukh, Cancer Research UK Beatson Institute).
Bottom images - Schematic representation of the experimental setup applied to compare the untargeted metabolic profiling of CAL-120 cells cultured *in vitro* (as 2D monolayers (bottom right) or 3D spheroids (bottom left)) in Plasmax™ , with CAL-120–derived orthotopic tumours

Contact us

hello@cancertools.org
www.cancertools.org