

The background of the entire slide is a dark red color with a faint, repeating pattern of cancer cells. The cells are depicted with irregular, bumpy edges and some internal detail, suggesting a microscopic view of tumor tissue.

PARITHERA

Prevention of cancer invasion by blood filtration

Problem

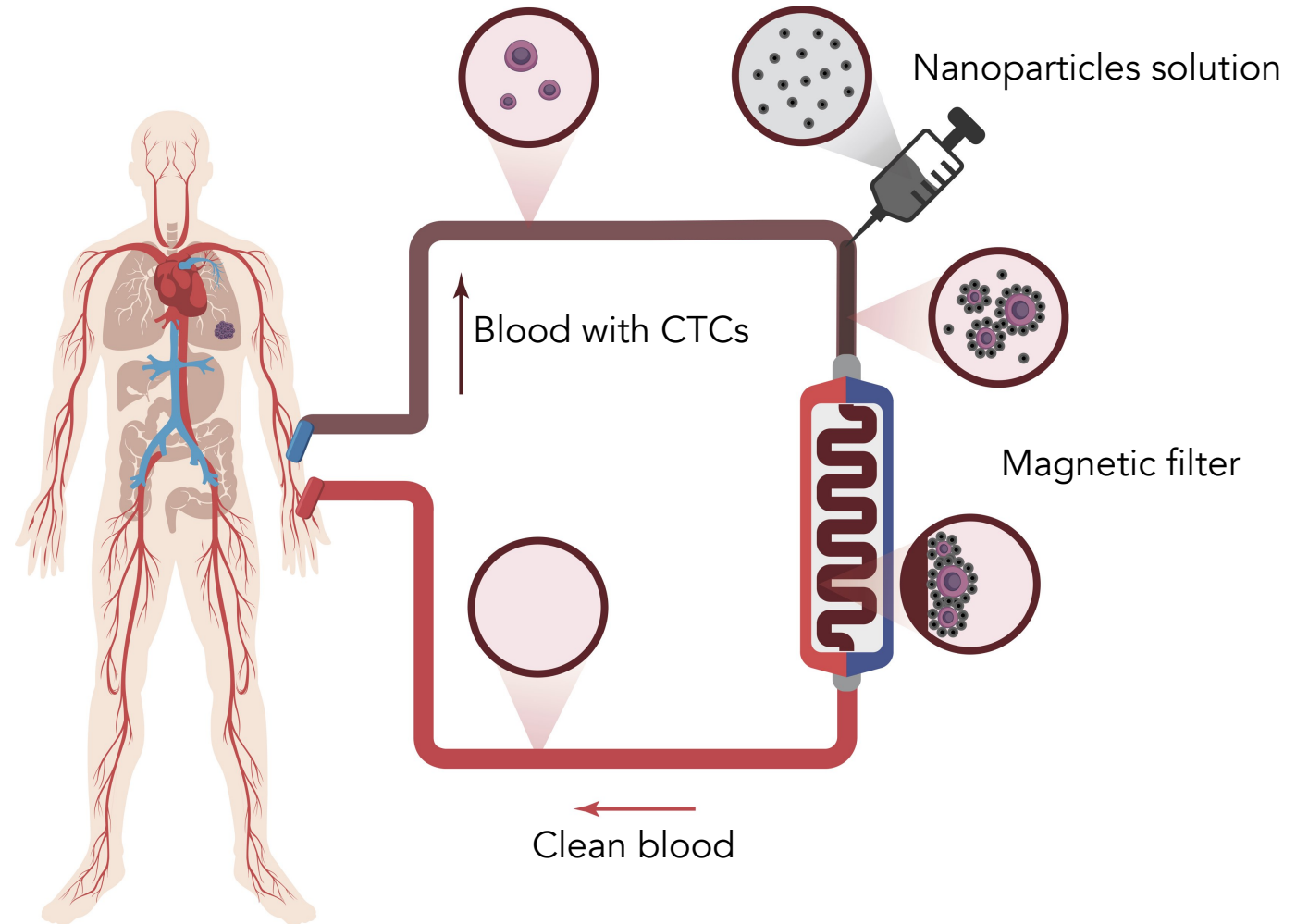
Over 90% of cancer patients die from metastases and none of the marketed therapies target **circulating tumor cells (CTCs)** the origin of metastases.

> 90%

1

Solution

The procedure is comparable to dialysis but focuses on removing CTCs from the blood with **magnetic nanoparticles**.

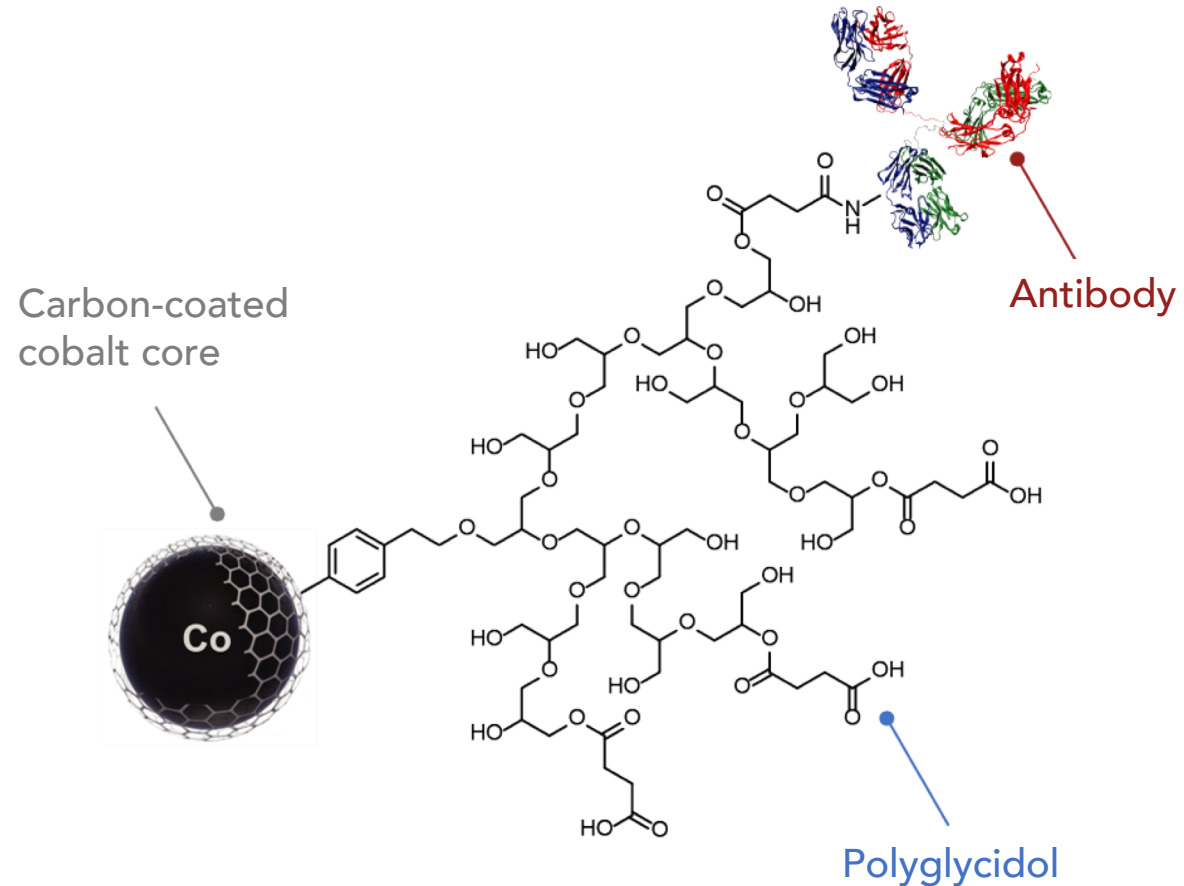


Our invention: A new generation of magnetic nanoparticles

Metallic core (Co or Fe)
provides magnetic properties

Polymer layer (polyglycidol)
provides antifouling properties

Antibody (application specific)
provides specific binding to target cells



Results



High removal efficiency



High specificity



Low blood coagulation potential

The work was done as a collaboration between ETHZ and USZ.

ETH zürich

Developed magnetic nanoparticles

USZ Universitäts
Spital Zürich

Tested procedure in blood samples

Time for questions



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