

Tether drugs together to target breast cancer

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LINKING two cancer drugs may help women with breast cancer live longer, with fewer side effects.

Chemotherapy drugs target all rapidly dividing cells, so it can harm healthy cells, causing side effects. To combat this, a team led by [Sara Hurvitz](#) of the University of California, Los Angeles, created T-DM1, which tethers together the molecules of two cancer drugs: trastuzumab ([Herceptin](#)) and DM1.

Herceptin, an antibody, binds to the HER2 receptors found on many types of breast cancer cells. DM1 targets all cells, but is inactive when tied to Herceptin. Once Herceptin binds to HER2, however, DM1 is released and acts on cancer cells in the vicinity.

"T-DM1 delivers the DM1 agent directly to the tumour cell, while limiting exposure of DM1 to normal cells," Hurvitz says.

The team gave 137 women with breast cancer either T-DM1 or the standard treatment of Herceptin plus another drug, docetaxel. Women who received T-DM1 saw no worsening of their cancer for around 14.2 months, compared with 9.2 months for the standard therapy, and fewer women stopped treatment due to side effects. The work was presented at the European Multidisciplinary Cancer Congress in Stockholm, Sweden, on 25 September.