Improved cancer drug hides out in patient's own blood cells

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It's notoriously difficult to direct cancer drugs to only the cells you want to target—they often kill many healthy cells in the process, making the patient feel sicker, or the body attacks them assuming that they are invaders. For the past few years, researchers have been devising new ways to disguise drug molecules so that they will reach cancerous cells more efficiently. Now a team of researchers from the University of North Carolina, Chapel Hill may have found the best cloaking mechanism yet, masking drugs as blood cells, according to a study published in the journal *Advanced Materials*.

Platelets, a type of blood cell, are a good disguise for drugs because blood cells naturally stick to cancer cells, so the drugs can go directly to tumors or destroy cancer cells in the blood stream before they colonize new organs. Plus, since the platelets are derived from the patient's own body, the immune system doesn't immediately try to destroy them, allowing the drugs to stay in the system for longer, the study authors told Science Beta.

The researchers first separated the platelets from the blood drawn from each mouse, then removed the platelet membranes and combined them with two cancer-fighting drugs. Then they injected the spheres into the mice's bloodstream. They found that the particles stayed in the bloodstream for 30 hours, 24 hours longer than the particles not coated with platelet membranes

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