

Your own fruit fly 'avatars' could boost precision medicine treatments

Personalized cancer medicine involves looking at an individual's genome and cancer growth to help find more effective ways of screening for, preventing and treating tumors.

By comparing the genomes of healthy versus cancerous cells, doctors can tailor treatments to a patient's individual needs, which may increase efficacy and reduce the side effects that occur with standard treatments.

One approach that doctors are now using to establish the best treatment options is the testing of various drugs on animals or "avatars" that have been engineered to have the same cancer that a patient has.

One option is to create *Drosophila* fruit flies that have the same genetic mutations as a person's tumor.

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Genetic sequencing showed that [one man's colon] tumor contained at least nine mutations, which the researchers then replicated in flies' gut cells, before breeding 300,000 of them.

Next, they developed a robotic system that tested 121 existing drugs on the flies, including medications for both cancer and other illnesses.

Several drug combinations not only prevented death, but also slowed tumor growth in the flies' guts. Eventually, doctors decided on a cancer drug and an osteoporosis treatment that was the most effective combination with the best-predicted safety.

Read full, original post: [Are fruit fly 'avatars' the next step in personalized medicine?](#)