‘Scientific gold rush’ created by quest for universal immunotherapy

The drug industry has made a mint on immunotherapies for cancer, but those game-changing treatments don’t work for most people’s tumors. That has set in motion a scientific gold rush, as biotech companies search for molecules they can add to those drugs to turn them into universal therapies.

The latest promising candidate is TGF-beta, a thorny collection of proteins that regulates a host of bodily functions. Among them is the process by which the immune system decides to either attack cancerous growths or let them pass idly by.

Early data suggest that adding a drug that blocks TGF-beta to blockbuster cancer treatments like Merck’s Keytruda and Bristol-Myers Squibb’s Opdivo could help vanquish tumors.

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[R]esearchers have learned the hard way that making products out of a winning idea is more complicated than simply cooking up a targeted drug. TGF-beta is not a discrete target but rather what scientists call a superfamily.
…

Choose too few targets and your drug is likely to have no effect, but target TGF-beta indiscriminately and you risk attacking innocent proteins and running into damning toxicities, said John Quisel, [chief business officer at Acceleron Pharma].

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“Our approach is that you have to have what I’ll call leavened activity against the right group of targets in order to find a balance on that spectrum between safety and activity,” Quisel said.

[Editor’s note: Full text is behind paywall]
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