Cancer researchers take on an old foe

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In the annals of cancer research, a protein known as KRas has become notorious. Part of a family of proteins implicated in 30 percent of cancers, KRas is considered a highly desirable but defiant drug target. Scientists have resuscitated efforts to crack its structure and find drugs to disable it. The cover story of *Chemical & Engineering News (C&EN)*, the weekly newsmagazine of the American Chemical Society, reports on the latest efforts to fight KRas.

Lisa M. Jarvis, a senior correspondent at *C&EN*, explains that the history of targeting KRas is one of failures. In the 1990s, many big pharma companies saw compounds meant to shut down KRas fail in clinical trials, prompting researchers to abandon the target. A major challenge to tackling KRas has been a lack of information about the protein's surface structure. Small-molecule drugs work by finding places to dock on proteins to change their activity. But KRas features a smooth surface with only shallow pockets that are difficult for small molecules to bind to. Additionally, some pockets only form when the protein flexes and bends.

Now, scientists are cautiously optimistic that technological progress has given them the tools to finally gain a better understanding of KRas. The number of patents for drugs targeting the protein has risen dramatically since 2012, and drug developers say clinical trials for one or more potential therapies could begin in the next two years.

More information: Scaling cancer's steepest summit, cen.acs.org/articles/94/i23/dr … ly-cracked-KRas.html

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