"Undruggable" kRAS Cancer Gene Targeted by Drug Developer Tosk

Promising National Cancer Institute supported initiative to battle gene that drives many cancers featured in Roots Analysis interview with Tosk CEO Frenzel.

MOUNTAINVIEW, CALIFORNIA, USA, July 26, 2018 /EINPresswire.com/ -- MOUNTAIN VIEW, CALIFORNIA, USA, July 26, 2018 /EINPresswire.com -- Tosk Inc.'s promising drug discovery program targeting cancer causing kRAS gene mutations is featured in an interview of CEO Brian Frenzel by the highly respected pharmaceutical and biotech research and consulting group, Roots Analysis. Mr. Frenzel is well known in the biotech community for leading worldwide corporate planning for Syntex and subsequently co-founding four successful medical products companies.

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> *Brian Frenzel, CEO, Tosk, Inc.*

The kRAS gene, which acts as a molecular on/off switch in cell signaling and proliferation, plays a critical role in many cancers. When it mutates, its signaling for cell growth increases, and the patient's ability to control cell proliferation slows or stops, driving tumor growth. Many previous efforts to block kRAS gene activity have failed, and kRAS has become known as an "undruggable" target.

The kRAS gene drives about 90 percent of pancreatic cancers, 45 percent of colorectal cancers, and 35 percent of lung cancers. The gene also blocks the efficacy of EFGR-inhibiting drugs, such as Erbitux®, in about 40 percent of patients who might otherwise benefit from this therapy for colon, head and neck, and other cancers. Given the importance of the kRAS cancer gene, the U.S. National Cancer Institute (NCI) considers it a very high priority. The NCI collaborates with a number of research organizations in its efforts to solve the problem, including Tosk, which recently was awarded a $2 million grant from NCI.

"Tosk's fruit fly-based drug screening technology offers an innovative new proprietary platform to identify drugs for difficult targets like kRAS," Frenzel says. "We use a whole animal model, a genetically modified fruit fly, instead of the traditional approaches to drug screening. This helps us find drug candidates that work for difficult-to-modulate targets." He adds that Tosk's kRAS program is in the lead selection and optimization stage, with an application for an IND with the U.S. FDA to enter human clinical studies planned within 18 to 24 months.

Frenzel also told Roots Analysis that "in addition to the kRAS program, we are using a different fruit fly technology platform to identify drugs for other biological targets. Three drugs have emerged from this program, including one which has been in human trials for a year and another in late stage preclinical testing."

Sizing the potential market for kRAS-related cancers therapies, Frenzel told Roots Analysis that "targeting the unserved 40 percent of patients who cannot use EGFR-inhibiting drugs plus potential monotherapy treatments for kRAS positive cancers yields an overall sales potential well into the billions of dollars." As to the cost of drugs Tosk is developing, he emphasizes that "the cost of our therapeutics should be closer to that of typical small molecule drugs, making them affordable by most patients around the world. Tosk's goal is to discover and develop very high value products that have the potential to reduce the overall cost of therapy while improving outcomes for cancer patients worldwide."

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