Team Progress Updates

Pancreatic Cancer Collective Research Team:
"Targeting SHP2 in Pancreatic Cancer New Therapies Challenge"

More than 90% of pancreatic tumors carry a mutation in the KRAS oncogene. The RAS pathway may be essential to promote the growth of pancreatic cancerous cells. This pathway helps transmit proliferation-promoting signals from the cell's surface receptors toward the nucleus, where these signals affect the regulation of other key genes that instruct the cell to divide. Mutant RAS genes become more active in signaling, and therefore keep pushing the cell toward uncontrolled proliferation. So far, no targeted therapies are clinically available against the active protein encoded by the mutant RAS gene.

The team has discovered that that tumors carrying an activating KRAS mutation are sensitive to the inhibition of SHP2, a protein that helps the transmission of the growth-promoting signal from the cell surface receptors. Moreover, the team has found that SHP2 inhibitors cooperate with inhibitors of MEK, a key RAS downstream effector, to achieve better control of tumor growth. Given these findings, the researchers have proposed a combination of SHP2 inhibitors and MEK inhibitors for the treatment of KRAS-mutant pancreatic cancer patients.

This team started its work in November 2018; progress notes will be posted after its first review.