Novel Stable Targets and Biomarkers for Personalized Cancer Therapy (BioRap)

A new paradigm: identifying host targets rather than tumor targets as cancer drugs, specifically in situations of tumor relapse, is shown to significantly improve clinical outcome of conventional cancer therapies. This platform strategy is also investigated for predictive and prognostic biomarkers for the identification of patient population most likely to benefit from a specific treatment.

Despite its serious side effects, millions of cancer patients will turn to chemotherapy each year to help save or prolong life. Although treatment benefit is achieved, eventually tumors relapsed during or right after conventional therapies. In Dr. Yuval Shaked's previous studies it has been suggested that in some cases, some of the side effects of chemotherapy although initially kill tumor cells, may also help the disease. In particular, he identified that some chemotherapy drugs used to kill tumor cells in mice under specific isolated circumstances may also ignite a metastic process enabling the tumor to survive and spread. Therefore, identifying and blocking such tumorigenic' side effects can further improve currently used cancer therapies. Dr. Shaked and his team's efforts are to design new treatment strategies which will be combined with conventional therapies to improve the overall treatment outcome.

Dr. Shaked and his team have developed novel and practical ways which may lead to improve the efficacy of conventional cancer therapies. In contrast to many drugs in the market, the major of which are designed to kill tumor cells, the team

searcher for targets found in the host which are being up-regulated in response to several conventional therapies. This new paradigm - identifying and searching for host targets rather than tumor targets - has already been shown to significantly and markedly improve clinical outcome of conventional therapies as demonstrated by the team.

The mechanisms that set this response in motion are being investigated, and already some potential new and novel targets for cancer therapy have been identified. The laboratory of Dr. Shaked set as a goal to uncover such new tumor relapse mechanisms which are on their way to be developed to new and better cancer therapies. Consequently, in addition to their potential therapeutic effects, this platform strategy has also been investigated for biomarker identification, aiming to identify the patient populations which will most likely benefit from a specific treatment. Using a series of functional assays has allowed the team to predict efficacy of a specific therapy. Subsequently, the team has begun to understand the different elements in such assays which may help simplify these functional assays to a simpler, general use by various laboratories.

Related Links:

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