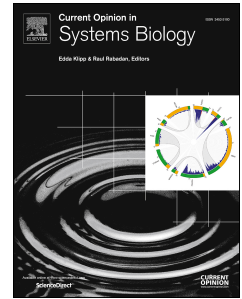


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Integrating genomic information and signaling dynamics for efficient cancer therapy

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## **Integrating genomic information and signaling dynamics for efficient cancer therapy**

### Abstract

The field of cancer systems biology has made great strides in understanding oncogenic pathway signaling and enumerating mutations involved in oncogenesis. However, application of these datasets to patient stratification, and to the design of personalized therapy, is in its infancy. We review BRAF and BRCA mutant targeted therapy, where patient stratification has had critical, albeit mixed success. We contrast the work on genomic targeted therapy with orthogonal studies on the dynamics of signaling pathways for designing optimal treatment schedules. We suggest that an integrated approach, combining genomic data and the dynamics of signaling pathways, is required for developing pathway specific computational models and for systematic deployment of targeted combination regimes.

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