

COMPANION DIAGNOSTICS FOR BREAST CANCER CHEMOTHERAPEUTICS

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Chemotherapy plays a major role in breast cancer treatment. However, not every chemotherapeutic is appropriate for each cancer due to the person's individual cancer characteristics and whether the patient has developed chemoresistance to a particular drug. In this research, the InVitro-Q is used to detect subtle differences in tumor cell proliferation post-treatment with four-breast cancer chemotherapeutics used: paclitaxel, docetaxel, nocodazole, and cytochalasin B. Our multi-well cell-based sensor that can monitor real-time biological changes in living cells, such as mass redistribution, and viscoelasticity. This system provides unique kinetic information regarding the phenotypic change in the cells post treatment. Each drug induces apoptosis by targeting a different mechanism of action. Each drug was assayed for 48h with MCF-7 or SK-Br-3 breast cancer cells, and data collected. Post analysis we created quantitative projection regarding the efficacy of each drug on the specific cancer type.

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