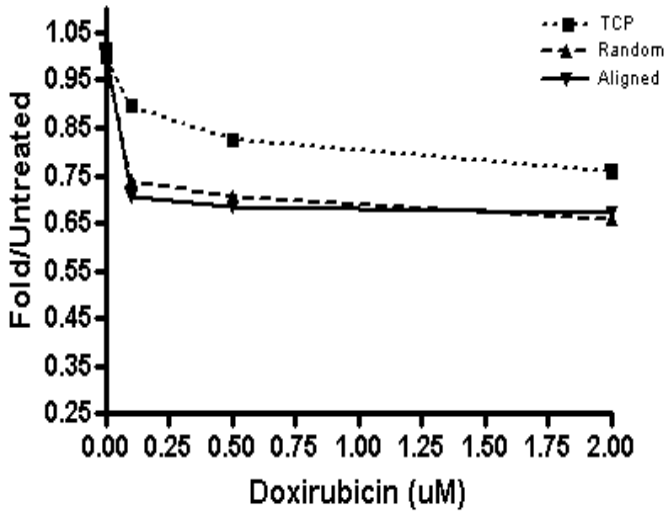
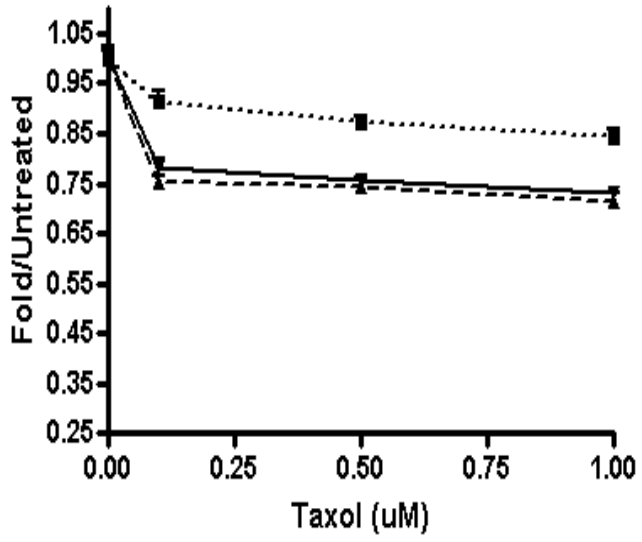
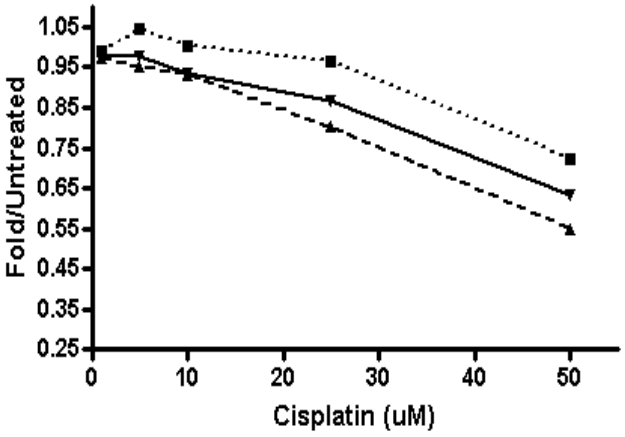
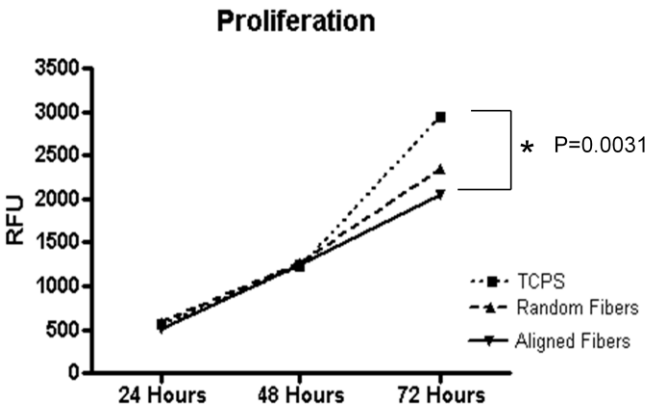
Nanofiber SOLUTIONS









Increased drug sensitivity of human A549 lung cancer cells when grown on random nanofibers or aligned nanofibers when compared to flat tissue culture plastic (TCP). This shows the significant problem of developing drugs using 2-D surfaces and explains why such a large amount of animal testing is required for pre-clinical drug development. Proliferation on 2-D TCPS is artificially high when compared to 3-D culture on nanofibers. Using a high-throughput 3-D nanofiber-based scaffold for *in vitro* drug screening can more accurately predict the *in vivo* response of drugs.

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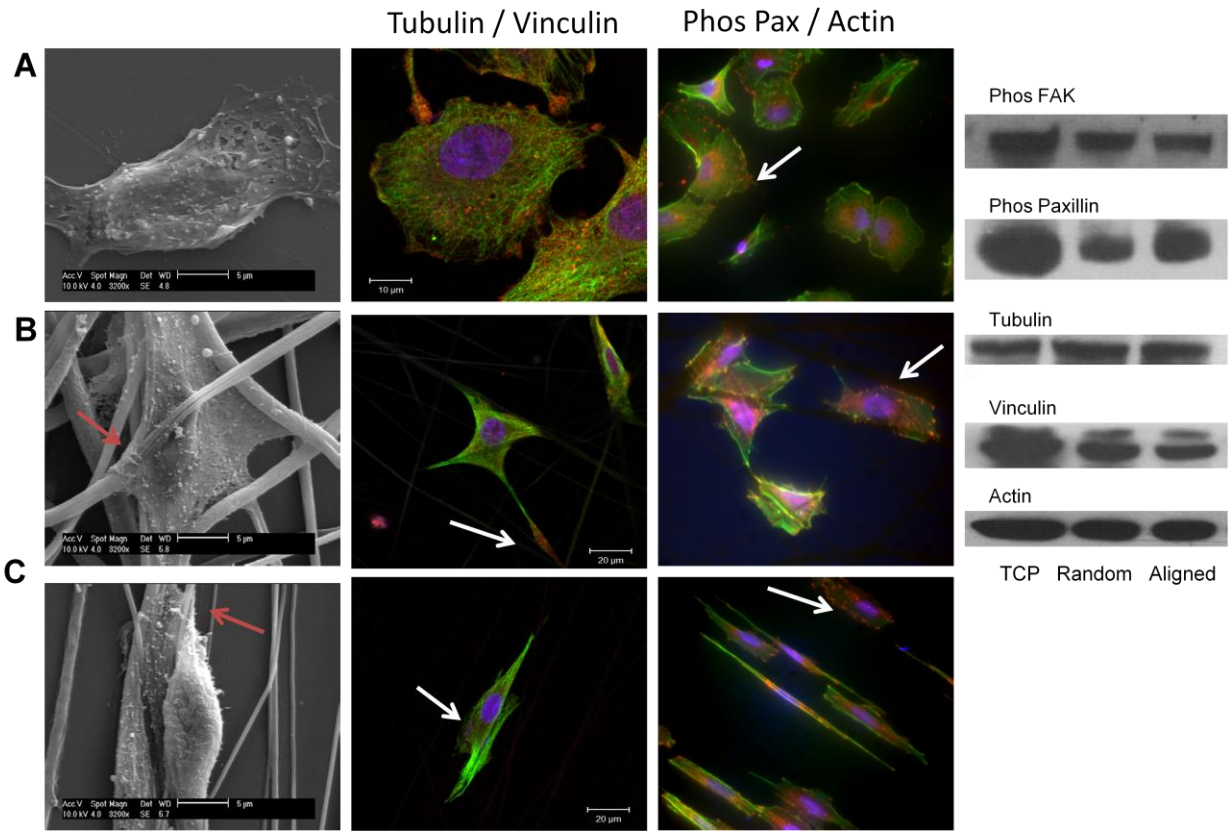

The ability to do high-resolution imaging through the nanofiber scaffold (through the bottom of the culture plate) is critical to validate cell/phenotype markers especially in high throughput screening and high content analysis. Standard microscopes and automated plate readers using light, fluorescence, absorbance, or luminescence are compatible with the nanofiber plates. Comparison of A549 cells on flat tissue culture polystyrene (**A**), randomly oriented nanofibers (**B**), and aligned nanofibers (**C**).