

Cologne Evolution Colloquium

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CRC 1310 Predictability in Evolution

Limited evidence of tumour mutational burden as a biomarker of response to immunotherapy

Cancer immunotherapy by immune checkpoint blockade (ICB) is effective for several cancer types, however, its clinical use is encumbered by a high variability in patient response. Several studies have suggested that Tumour Mutational Burden (TMB) correlates with patient response to ICB treatments, likely due to immunogenic neoantigens generated by novel mutations accumulated during cancer progression.

Here we first revisit the association of mutational burden with response to checkpoint inhibitors. Surprisingly, we find little evidence that TMB is predictive of patient response to immunotherapy. Our analysis suggests that previously reported associations arise from a combination of confounding disease subtypes and incorrect statistical testing. Altogether, our analysis calls for caution in the use of TMB as a biomarker and emphasizes the necessity of continuing the search for other genetic and non-genetic determinants of response to immunotherapy.

Monday, March 28, 2022, 17:00

Institute for Biological Physics

Zülpicher Str. 77a, Room 0.03 and Online via Zoom

Hosted by Johannes Berg