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- (54) Title: DETERMINANTS OF CANCER RESPONSE TO IMMUNOTHERAPY

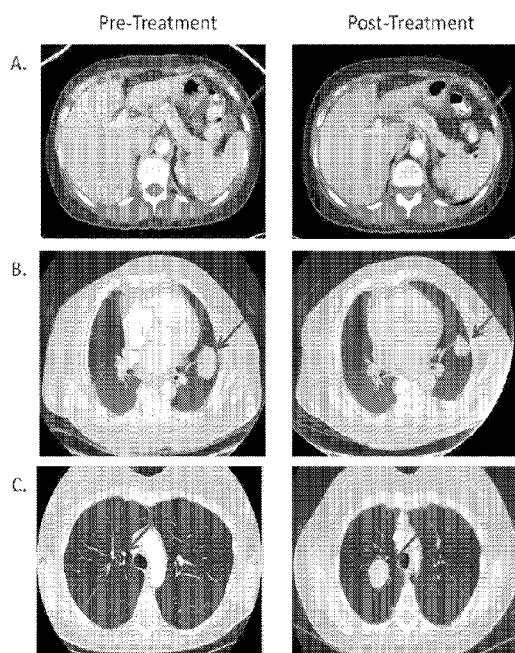


FIG. 1

(57) Abstract: Molecular determinants of cancer response to immunotherapy are described, as are systems and tools for identifying and/or characterizing cancers likely to respond to immunotherapy. The present invention encompasses the discovery that the likelihood of a favorable response to cancer immunotherapy can be predicted. The present invention further comprises the discovery that cancer cells may harbor somatic mutations that result in neoepitopes that are recognizable by a patient's immune system as non-self. The identification of one or more neoepitopes in a cancer sample is useful for determining which cancer patients are likely to respond favorably to immunotherapy, in particular, treatment with an immune checkpoint modulator.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
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