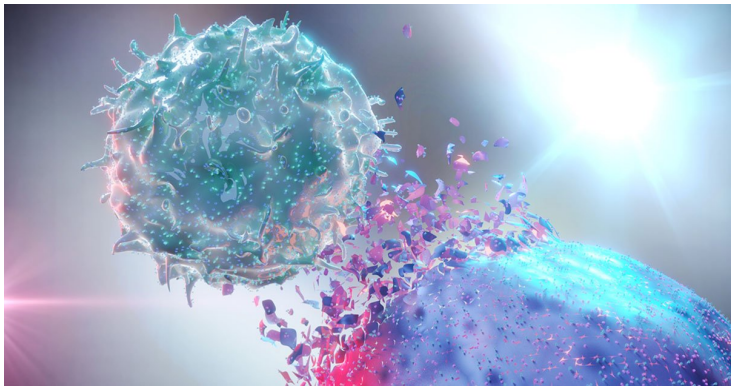
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Korea designs AI-based precision medicine technology for immunotherapy response

July 11, 2022 | News

A machine learning model to predict immunotherapy response in cancer patients



A team of researchers at the Pohang University of Science and Technology (POSTECH) in South Korea has improved the accuracy of predicting patient response to immune checkpoint inhibitors (ICIs) by using network-based machine learning.

The research team discovered new network-based biomarkers by analyzing the clinical results of more than 700 patients with three different cancers (melanoma, gastric cancer, and bladder cancer) and the transcriptome data of the patients' cancer tissues.

By utilizing the network-based biomarkers, the team successfully developed artificial intelligence (AI) that could predict the response to anticancer treatment.

The team further proved that the treatment response prediction based on the newly discovered biomarkers was superior to that based on conventional anticancer treatment biomarkers including immunotherapy targets and tumor microenvironment markers.

This study helps detect patients who will respond to immunotherapy in advance and establish treatment plans, resulting in customized precision medicine with more patients to benefit from cancer treatments.