

Editorial

## Nanobyte: Molecular and immuno oncology update

Radhika Vaishnav

Department of Molecular Informatics, Natureka Life Sciences, Vadodara, Gujarat, India.



\*Corresponding author:

Radhika Vaishnav,  
Department of Molecular Informatics, Natureka Life Sciences, Alkapuri, Vadodara - 390 007, Gujarat, India.  
radhikavaishnav@gmail.com

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### FOOD AND DRUG ADMINISTRATION APPROVES IMMUNOTHERAPY FOR BREAST CANCER

A new treatment for triple-negative breast cancer (TNBC) was approved on March 8, 2019, by the US Food and Drug Administration (FDA).<sup>[1]</sup> This was the first immunotherapy based treatment to be approved by the FDA for breast cancer. Some women with TNBC may benefit from atezolizumab (Tecentriq, Genentech Inc.) in combination with paclitaxel chemotherapy, particularly if the tumors express PD-L1 positive tumor infiltrating lymphocytes (TILs). TNBC has a high level of PD-L1 expression, which is targeted by atezolizumab.

PD-L1 is highly expressed in melanoma, NSCLC, and ovarian cancer and is expressed on TILs. PD-L2 is expressed by dendritic cells and monocytes, mainly, and is involved in the suppression of T-helper cells. To improve outcome, specificity and limit side effects, targeting PD-L1 is preferred so that PD1-PD-L1 interaction is prevented and not PD1-PD-L2 interaction.

### NON-HODGKINS LYMPHOMA VACCINE

In a recent issue of Nature Medicine,<sup>[2]</sup> researchers report the initial results of a clinical trial in which an “*in situ*” vaccine caused shrinkage of tumors in other regions. The approach involves the injection of the NHL tumor with a dendritic cell chemoattractant protein, followed by low dose radiation to the tumor. This radiation ruptures the tumor, resulting in antigen release and recruitment of dendritic cells. These antigens are taken up and presented by dendritic cells to T cells. The next step is to inject TLR3 agonist into the tumor, causing activation of dendritic APCs, which then move to lymph nodes and activate a systemic reaction. Another clinical trial will combine this *in situ* vaccine approach with immunotherapy.

### KEEPING UP WITH GENOMICS

It is nearly two decades since the genome was sequenced. For scientists and medical professionals who were trained or practicing at that time, keeping up with the recent advancements in molecular biology and genomics, particularly on the application side is often a challenge. Large amounts of information are available from genomics but a basic understanding of the science behind it, the methodology and workflow are essential for remaining up-to-date for accurate and appropriate cancer management. The need for building bridges between bench and clinic is no longer a vision; it is a reality. At the 2019 Molecular Oncology Society Conference, held earlier this year, Thermo Fisher Scientific held a pre-conference workshop wherein the steps

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underlying next-generation sequencing (NGS) technology were explained, various platforms molecular diagnostics were compared, and round table discussions allowed all participants to gain insight into NGS technology.

## REFERENCES

1. Available from: <https://www.fda.gov/Drugs/InformationOn>

Drugs/ApprovedDrugs/ucm633065.htm. [Last accessed on 2019 Apr 25].

2. Hammerlich L, *et al.* Systemic clinical tumor regressions and potentiation of PD1 blockade with *in situ* vaccination. Nat Med 2019;25:814-824.

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