PD-L1 Zeta-Antibody ZR3 Sheds the Light on Various Human Tumors

A **ZETA Corporation** White Paper

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SUMMARY:

The single-pass transmembrane protein PD-L1 (B7-H1) experienced increased attention upon its identification in limiting immune responses and expression by many malignant cells. PD-L1 (clone ZR3) tips the balance in favor of reliable determination of pulmonary carcinomas acquiring PD-L1 protein expression and has the potential to support treatment option considerations including but not limited to lung cancer patients.

The expression of transmembrane protein PD-L1 (B7-H1, CD274) was initially observed in antigen-presenting cells APCs, limiting adaptive immune responses by interacting with exhausted PD-1+ T cells thereby blocking TCR signaling. However, PD-L1 expression by cancer cells **(Fig. 1)** was identified to critically contribute to immune evasion.

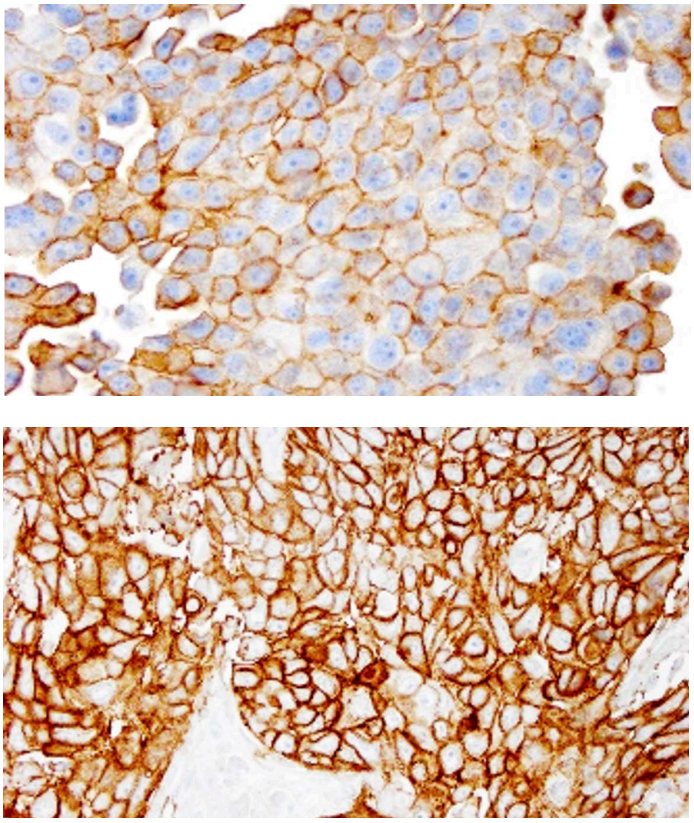

Figure 1: PD-L1 ZR3 Zeta-Antibody. IHC staining of PD-L1 (brown) in human lung adenocarcinoma (top) and lung squamous cell carcinoma (bottom). Images property of Zeta Corporation.

Lung adenocarcinoma is distinguished from lung squamous cell carcinoma through acquiring TTF1 and napsin A or p40 protein expression, respectively. However, additional detection of PD-L1 protein expression is employed for reliable disease prognosis and projected evaluation of treatment options requiring excellent antigen acquisition.

Furthermore, PD-L1 is reported to be frequently over-expressed in melanoma, and carcinomas of the lung, stomach, bladder, and breast.

The expression of PD-L1 (B7-H1) protein underlies a wide range of multifaceted molecular circuitries facilitating a broad and promiscuous PD-L1 expression signature **(Fig. 2)**.

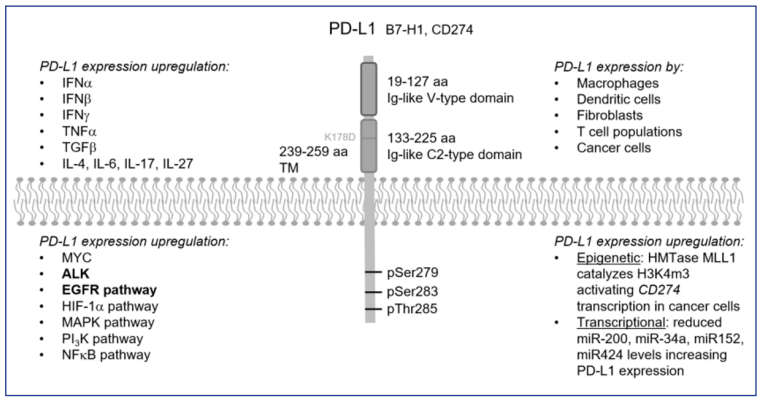

Figure 2: PD-L1 (B7-H1) multifaceted regulation in cancer. PD-L1 protein domain structure and protein expression regulatory mechanisms, i.e. cytokines (upper left), kinases and pathways (lower left), epigenetic and transcriptional mechanisms (lower right). Illustration courtesy of AH.

The newly established Zeta-Antibody PD-L1 clone ZR3 sheds critical light on pulmonary carcinomas as well as a variety of other types of human neoplasms, and potentially could contribute and support future treatment option considerations to help patients battling cancer. Notably, the PD-L1 (ZR3) antigen recognition signature and pattern is similar to that of well investigated clone 22C3 and hence inevitably introduces a new potential substitute to clone 22C3.

References for further reading:

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