

For Research Use Only. Not For Use In Diagnostic Procedures.

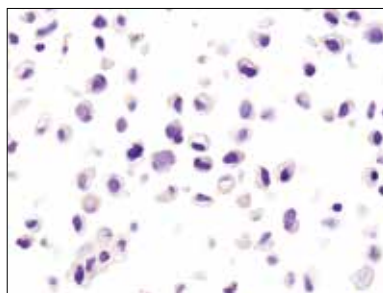
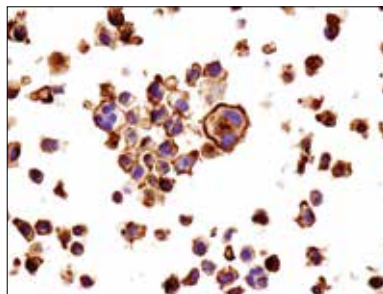
Description: Each control slide contains formalin fixed, paraffin-embedded cell pellets, HDLM-2 (PD-L1 positive) and PC-3 (PD-L1 negative), that serve as controls for PD-L1 immunostaining.

Background: Programmed cell death 1 ligand 1 (PD-L1, B7-H1, CD274) is a member of the B7 family of cell surface ligands that regulate T cell activation and immune responses. The PD-L1 ligand binds the PD-1 transmembrane receptor and inhibits T cell activation. PD-L1 was discovered following a search for novel B7 protein homologs and was later shown to be expressed by antigen presenting cells, activated T cells, and tissues including placenta, heart, and lung (1-3). Similar in structure to related B7 family members, PD-L1 protein contains extracellular IgV and IgC domains and a short, cytoplasmic region. Research studies demonstrate that PD-L1 is expressed in several tumor types, including melanoma, ovary, colon, lung, breast, and renal cell carcinomas (4-6). Expression of PD-L1 in cancer is associated with tumor infiltrating lymphocytes, which mediate PD-L1 expression through the release of interferon gamma (7). Additional research links PD-L1 expression to cancers associated with viral infections (8,9).

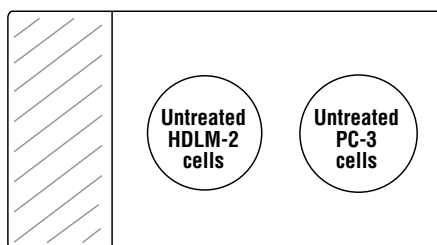
Applications: These slides are intended for use in immunohistochemical assays.

Background References:

- (1) Dong, H. et al. (1999) *Nat Med* 5, 1365-9.
- (2) Freeman, G.J. et al. (2000) *J Exp Med* 192, 1027-34.
- (3) Liang, S.C. et al. (2003) *Eur J Immunol* 33, 2706-16.
- (4) Dong, H. et al. (2002) *Nat Med* 8, 793-800.
- (5) Thompson, R.H. et al. (2006) *Cancer Res* 66, 3381-5.
- (6) Pardoll, D.M. (2012) *Nat Rev Cancer* 12, 252-64.
- (7) Taube, J.M. et al. (2012) *Sci Transl Med* 4, 127ra37.
- (8) Lyford-Pike, S. et al. (2013) *Cancer Res* 73, 1733-41.
- (9) Chen, B.J. et al. (2013) *Clin Cancer Res* 19, 3462-73.



Immunohistochemical analysis of paraffin-embedded HDLM-2 (left) and PC-3 (right) cell pellets using PD-L1 (E1L3N™) XP® Rabbit mAb #13684.



Storage: Store at 4°C.

Optimal staining is achieved if slides are stained following CST's standard IHC protocols and are used within 8 weeks of assay date; however, signals may persist beyond two months.

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