

## Special Issue

# PD-L1, A Master Regulator of Immunity

### Message from the Guest Editors

Receptor programmed cell death-1 (PD-1) is a co-inhibitory receptor that is mainly expressed on activated T cells. Through binding with its ligand, programmed death ligand-1 (PD-L1), PD-1 regulates the activity of T cells. As such, adaptive immune responses mediated by T cells against invading pathogens are strictly regulated, thereby avoiding collateral damage to the host. This regulatory circuit is however abused in several diseases such as chronic infection and cancer to dampen immune responses prematurely. Blocking the PD-1:PD-L1 immune checkpoint axis has therefore garnered substantial interest. In cancer, PD-1:PD-L1 blockade has resulted in unprecedented successes in individual patients across a variety of cancer types. However, a large cohort of patients fails to respond to PD-1:PD-L1 blockade. Insights into different mechanisms underlying this therapy failure are gradually gained. These highlight the complexity of the immune system and cancer as a disease. They further shed light on how combination with other therapies could enhance the response rates to PD-1:PD-L1 blockade.

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### Deadline for manuscript submissions

closed (31 July 2019)



## International Journal of Molecular Sciences

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Impact Factor 4.9  
CiteScore 9.0  
Indexed in PubMed



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*International Journal of  
Molecular Sciences*  
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### Editor-in-Chief

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