



Universiteit  
Leiden  
The Netherlands

## Cytokine-mediated regulation of immunity during persistent viral infection

Pratumchai, I.

### Citation

Pratumchai, I. (2022, September 20). *Cytokine-mediated regulation of immunity during persistent viral infection*. Retrieved from <https://hdl.handle.net/1887/3459110>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3459110>

**Note:** To cite this publication please use the final published version (if applicable).

# **Cytokine-mediated regulation of immunity during persistent viral infection**

**Isaraphorn Pratumchai**



# **Cytokine-mediated regulation of immunity during persistent viral infection**

Proefschrift

ter verkrijging van  
de graad van doctor aan de Universiteit Leiden,  
op gezag van rector magnificus prof.dr.ir. H. Bijl,  
volgens besluit van het college voor promoties  
te verdedigen op dinsdag 20 september 2022

klokke 10.00 uur

door  
Isaraphorn Pratumchai  
geboren te Khon Kaen (Thailand)  
in 1987

**Promoter**

Prof.dr. J.J.C. Neefjes

**Co-promotors**

Dr. R. Arens  
Dr. J.R. Teijaro, Scripps Research

**Leden Promotiecommissie**

Prof.dr. J.G. Borst  
Prof.dr. A.N.M. Schumacher  
Prof.dr.S.M. van Ham, Sanquin  
Prof.dr.R.E. Mebius, Amsterdam UMC  
Dr. A.G. van der Veen

*This thesis is dedicated to my family who believes in  
the power of education*



# Table of Contents

	pages
<b>Chapter 1</b>	
General introduction and outline.....	9
<b>Chapter 2</b>	
IL-27 promotes the expansion of self-renewing CD8 <sup>+</sup> T cells in persistent viral infection.....	26
<b>Chapter 3</b>	
B-cell-derived IL-27 promotes control of persistent LCMV infection.....	60
<b>Chapter 4</b>	
JAK inhibition reshapes the T cell exhaustion state to enhance checkpoint blockade therapy...	84
<b>Chapter 5</b>	
Summary and general discussion.....	119
<b>Appendices</b>	
English summary .....	127
Nederlandse samenvatting.....	129
Acknowledgement.....	131
Curriculum vitae.....	113
List of publications.....	134

