

# Complement and Thromboinflammation in SARS-CoV-2

bringing innate immunity to the **next level**



# Introduction

- Innate Immunity scientifically highly relevant in emerging needs to understand mechanisms of infectious diseases
- Failure of the adaptive immune system requires new approaches
- SARS-CoV-2 / Covid-19 is a multidisciplinary approach, stimulates interactions between immunologists, pulmonologists, hematologists, pathologists, virologists, intensivists
- Dedicated and focused industrial specialists add value

## Hycult Biotech:

- SARS-CoV-2 not just a hype. For many years working on development of biomarkers and research tools for disease understanding and unraveling innate immune system
- Hycult Scientists participate in international projects for biomarker development on viral, fungal and bacterial infections with aim on diagnostic tools that support therapies





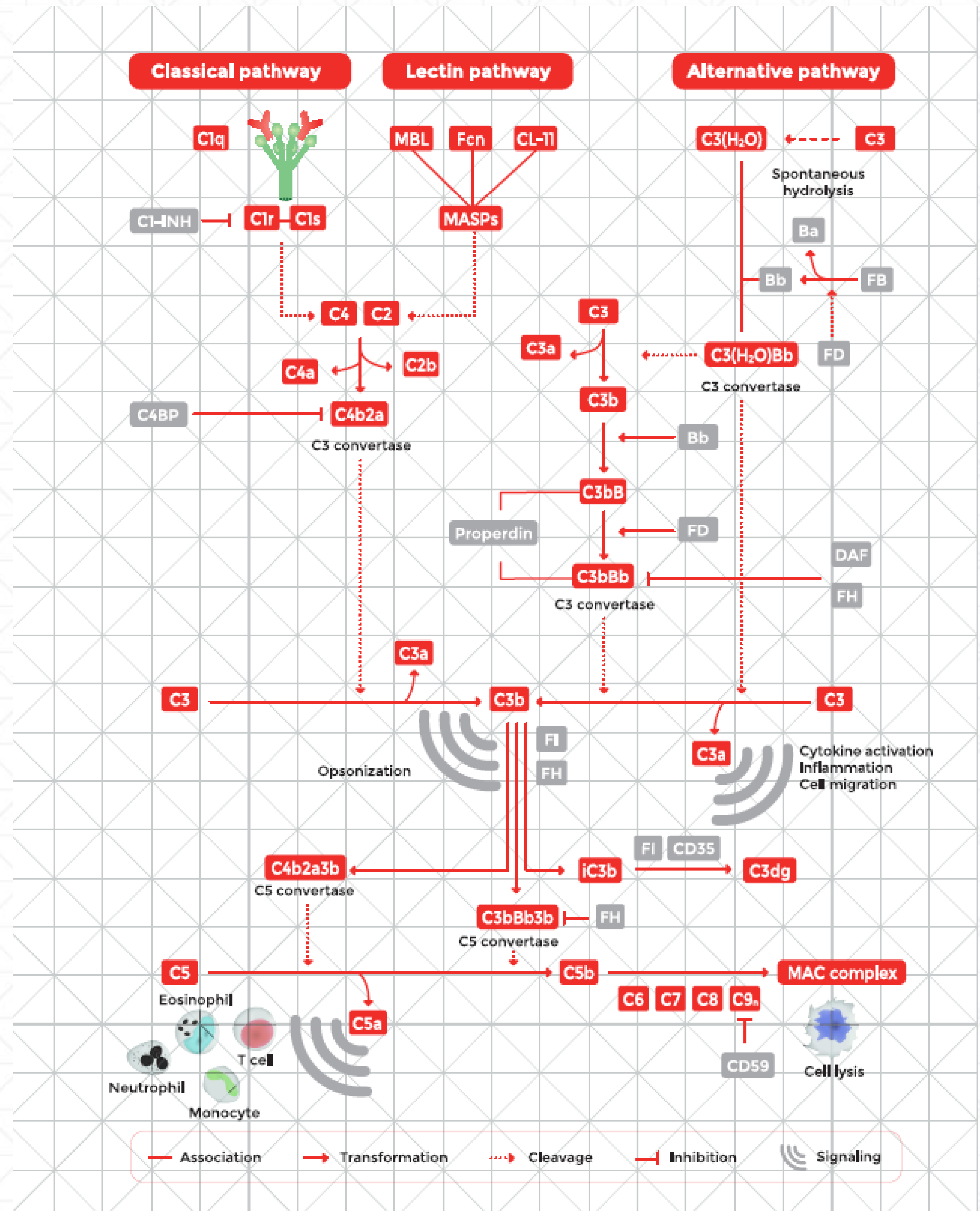
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## SARS-CoV-2 studies on complement therapeutics

- Anti-C5, Alexion
- Anti-C5a, InflaRx
- Anti-C3, Amyndas
- Rec C1inh, Pharming

## Complement in literature:

- System hijacked by SARS-CoV-2
- Microvascular injury
- Thrombosis
- Acute Respiratory Distress Syndrome (ARDS)





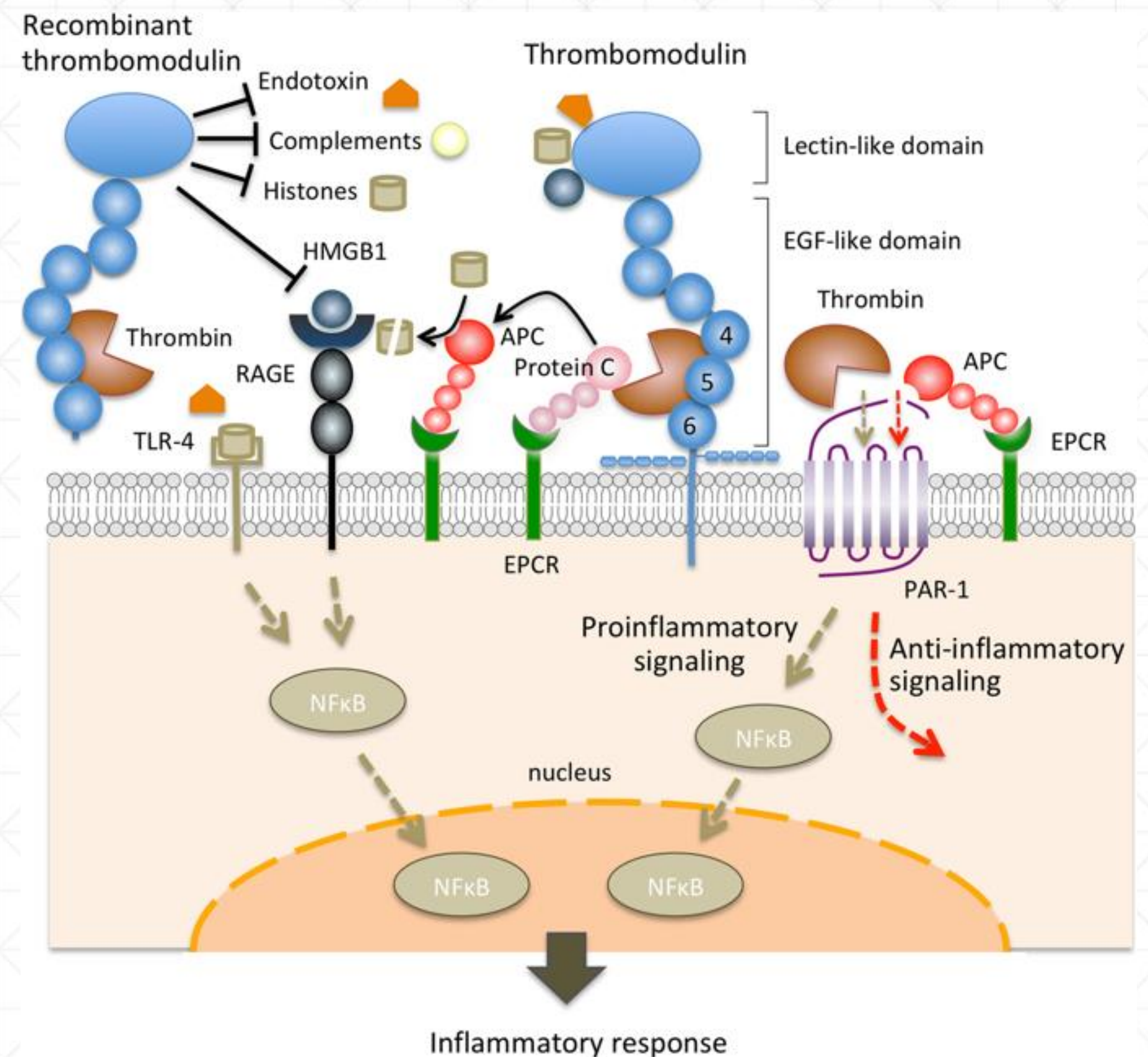
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## Kinin pathway involvement

- Bradykinin
- ACE2
- Vascular leakage
- Pulmonary angioedema
- ARDS

## sThrombomodulin:

- Biomarker for:
- endothelial activation
- lung injury
- intravascular coagulation
- multiorgan dysfunction syndrome





# Scientific tools and biomarker assays

Complement	Thrombo inflammation	Lung injury
<a href="#">MBL</a> and <a href="#">MASP-2</a> assays	<a href="#">sThrombomodulin</a> assay	<a href="#">sMR/sCD206</a> assay
<a href="#">C3</a> , <a href="#">C3a</a> and <a href="#">C3c</a> assays	<a href="#">Coagulation Factor XII</a> assay	<a href="#">PTX3</a> assay
<a href="#">C5</a> and <a href="#">C5a</a> assays	<a href="#">gC1qR</a> assay	<a href="#">MPO</a> assay
<a href="#">TCC</a> assay	<a href="#">uPAR</a> , <a href="#">EPCR</a> , <a href="#">Activated Protein C</a> antibodies	<a href="#">Elastase</a> / <a href="#">A1AT</a> assays
<a href="#">Factor H</a> assay		<a href="#">PR-3</a> assay
Blocking antibodies to mouse <a href="#">C5</a> and <a href="#">C5aR</a>		<a href="#">SP-D</a> assay

