

Cite this as: Jiaqi LU, Jingyuan LIU, Ang LI. Roles of neutrophil reactive oxygen species (ROS) generation in organ function impairment in sepsis[J]. Journal of Zhejiang University Science B, 2022, 23(6): 437-450.
<http://doi.org/10.1631/jzus.B2101075>

Roles of neutrophil reactive oxygen species generation in organ function impairment in sepsis

Key words: Sepsis; Neutrophils; Oxidative stress; Reactive oxygen species; Organ dysfunction

Research Summary

This paper reviews the existing knowledge on the production mechanism of neutrophil ROS in human organ function impairment as a result of sepsis. It is mainly explained from the following aspects:

- Role of ROS in brain injury in sepsis
- Role of ROS in lung injury in sepsis
- Role of ROS in cardiovascular injury in sepsis
- Role of ROS in liver injury in sepsis
- Role of ROS in kidney injury in sepsis
- Role of ROS in gastrointestinal dysmotility in sepsis
- Role of oxidative stress in coagulation dysfunction in sepsis
- Role of ROS in endothelial cells in sepsis

Role of reactive oxygen species in organ dysfunction in sepsis

Neurological system

- Disorientation
- Delirium
- Coma

Respiratory system

- Acute lung injury
- Acute respiratory distress syndrome

Hepatic system

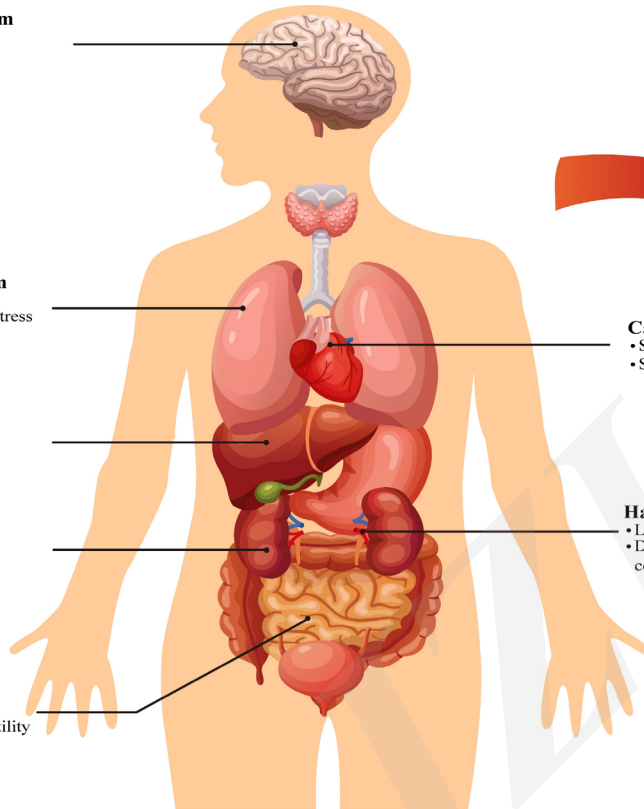
- Bilirubin levels
- T Bilirubin levels

Renal system

- Acute kidney injury

Digestive system

- Gastrointestinal motility disorder



Cardiovascular system

- Septic cardiomyopathy
- Septic

Haematological system

- Low platelet count
- Disseminated intravascular coagulation

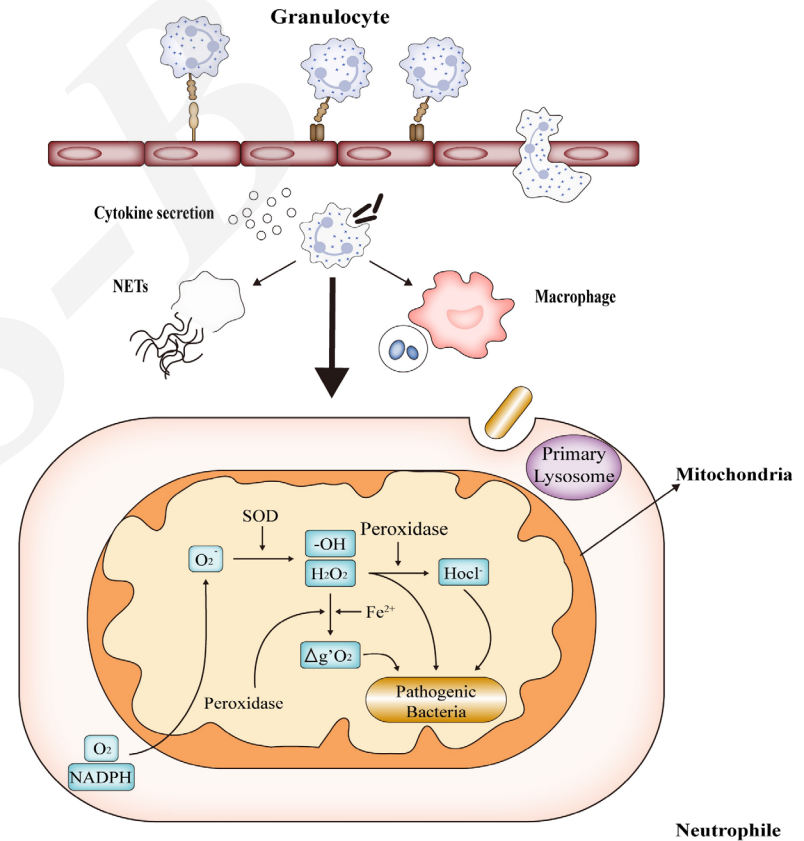


Figure 4

Innovation points

A series of comprehensive tables were generated to summarize the latest knowledge about CBX proteins.

Table 1 | Effects of knock down or overexpression of *Cbx* genes.

Table 2 | Phenotypes of *Cbx* KO mice and human patient with point mutations.

Table 3 | SUMOylation substrates of CBX4.

Table 4 | Post translational modification of CBX proteins.

Table 5 | Cancers associated with aberrant expression of CBX proteins.