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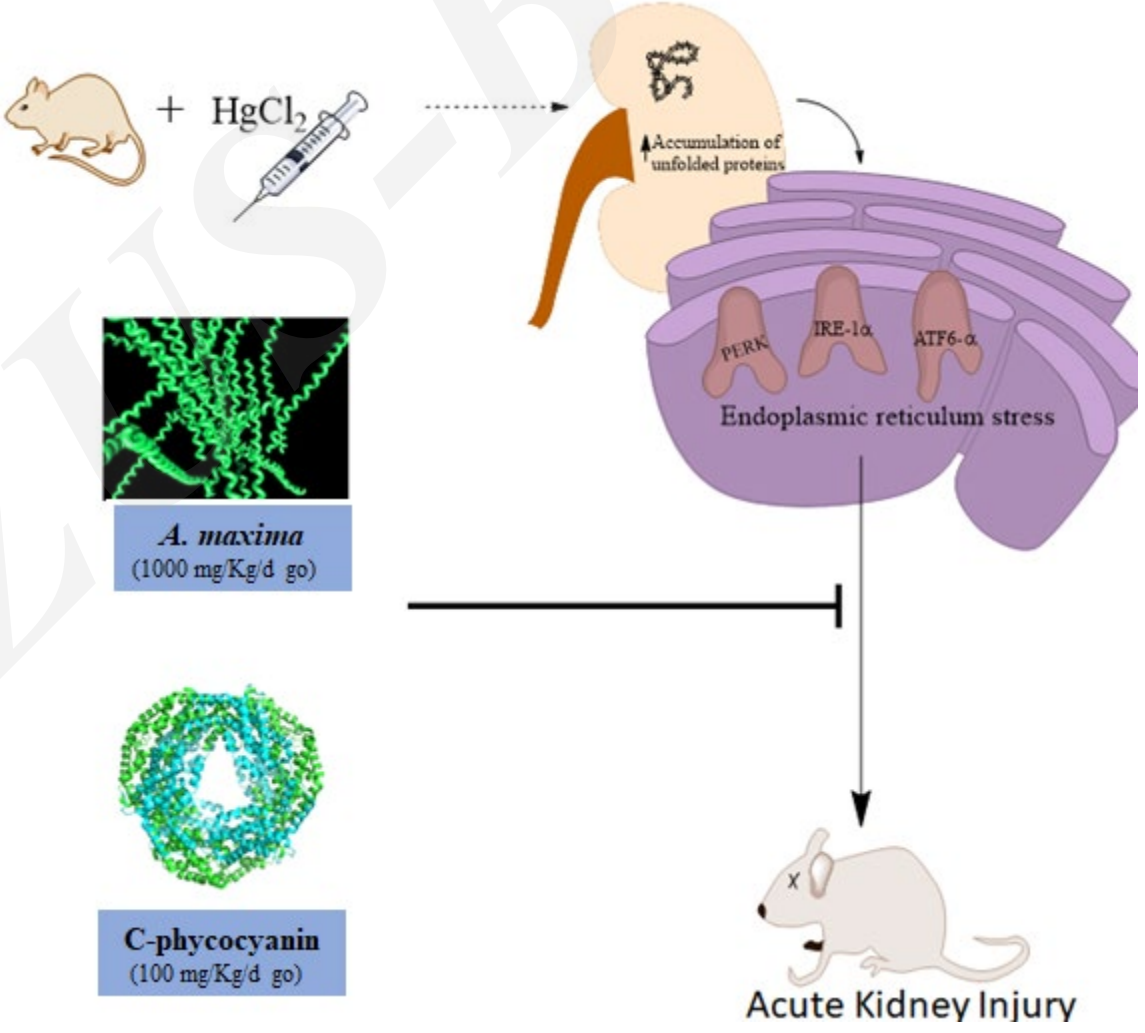
Arthrospira maxima (*Spirulina*) prevents endoplasmic reticulum stress in the kidney through its C-phycocyanin

Key words: C-phycocyanin, Arthrospira maxima, Spirulina, endoplasmic reticulum stress, nephroprotection

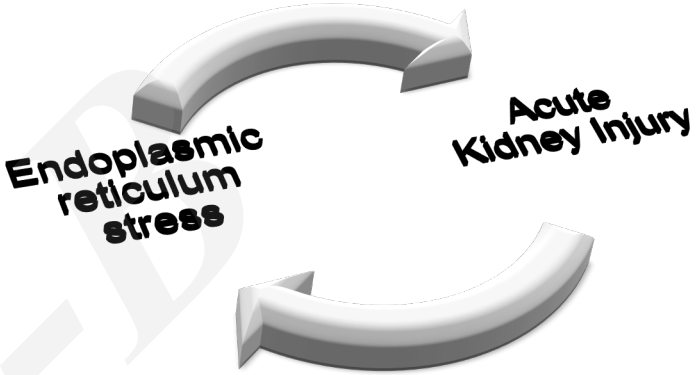
Research Summary

This paper evaluates the nephrotective effectiveness of *Arthrospira maxima* and its C-phycocyanin on endoplasmic reticulum stress in a model of acute kidney injury caused by $HgCl_2$ intoxication.

- **Improvement in podocyte slit filtration membrane**
- **Decreased of endoplasmic reticulum stress markers**
- **Reduction of cell death markers**

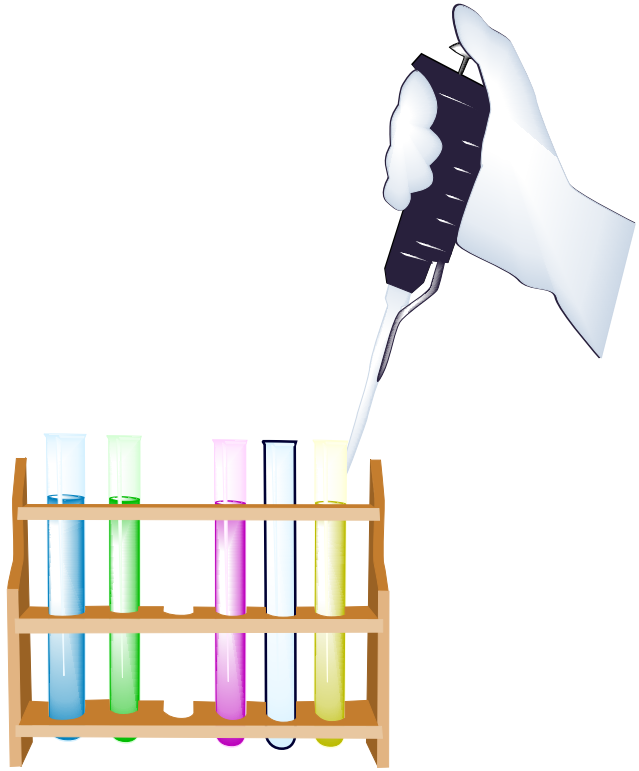


Innovation points



- **Provide** new knowledge about AKI and it´s relationship with endoplasmic reticulum stress.

- **Discuss** the nephroprotective mechanism of *Arthrospira maxima* and C-phycocyanin, involved on the reduction of endoplasmic reticulum stress markers.



- **Design** a new strategy with the aim to enhance the AKI therapies.

Innovation points

A series of comprehensive figures were generated to summarize the latest knowledge about nephroprotective effect of *Arthospira maxima* and C-phycocyanin on endoplasmic reticulum stress of renal cells .

Figure1 | Effects of *Arthrospira maxima* and C-phycocyanin on renal expression nephrin and podocin in kidney.

Figure 2 | Effects of *Arthrospira maxima* and C-phycocyanin on expression of PERK pathway in kidney.

Figure 3 | Effects of *Arthrospira maxima* and C-phycocyanin on expression of IRE-1α and ATF6α pathways in kidney.