Mitochondrial DNA via recipient TLR9 acts as a potent first hit in transfusion-related acute lung injury

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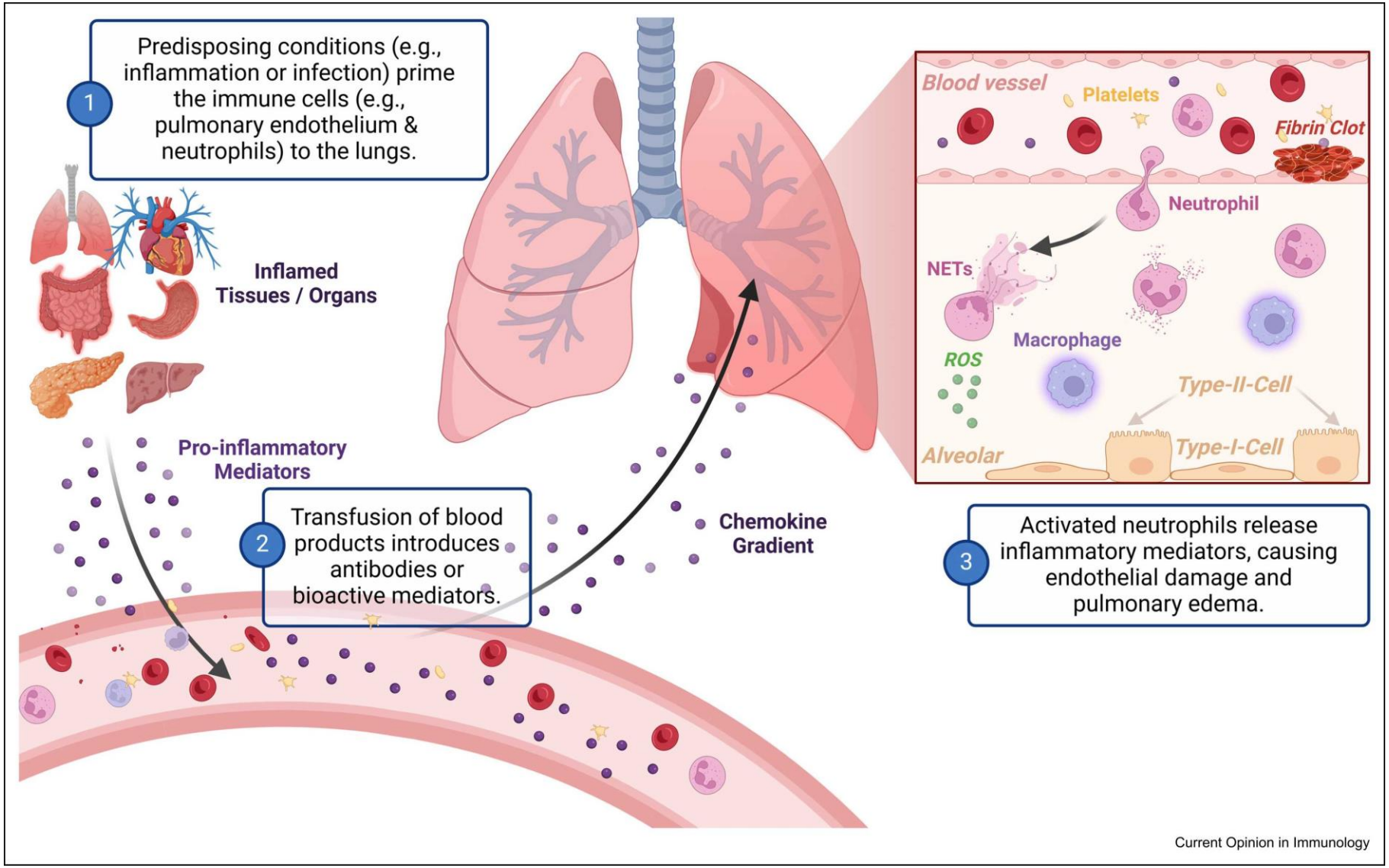
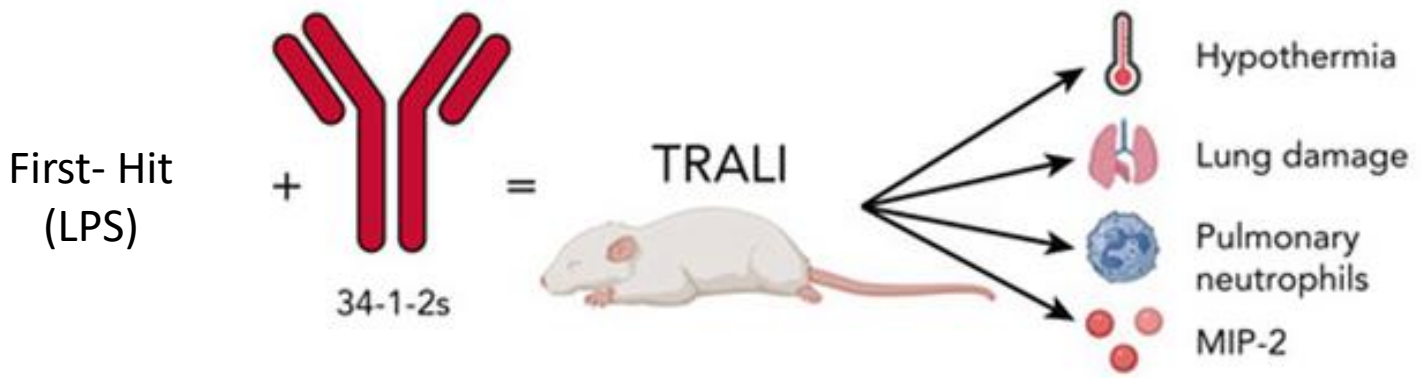
Disclosure

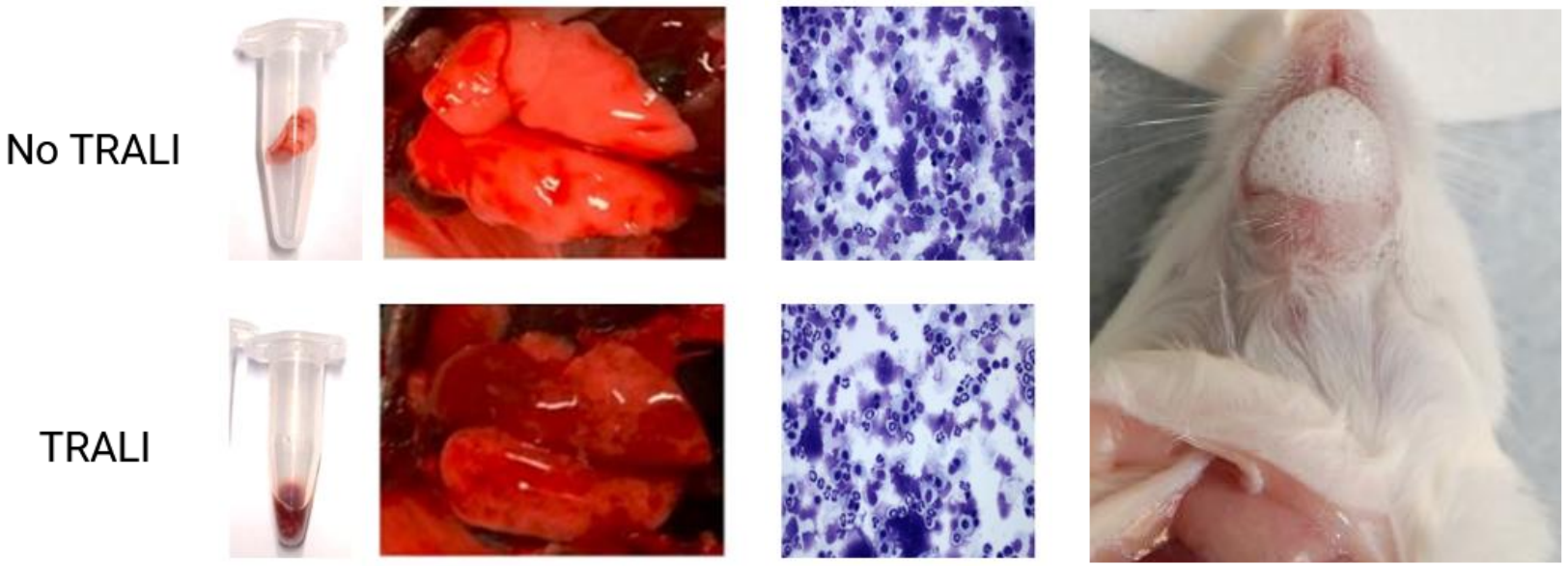
I have no actual or potential conflict of interest in relation to this congress or this presentation

Transfusion-related acute lung injury (TRALI)

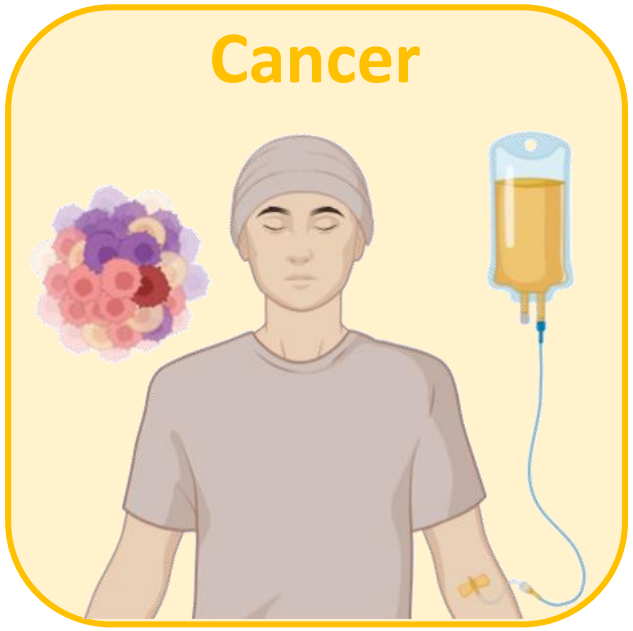


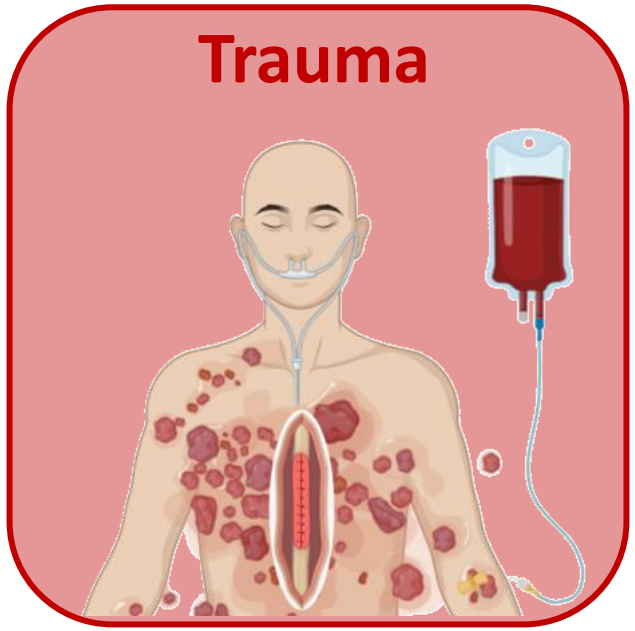
Murine model of antibody-mediated TRALI





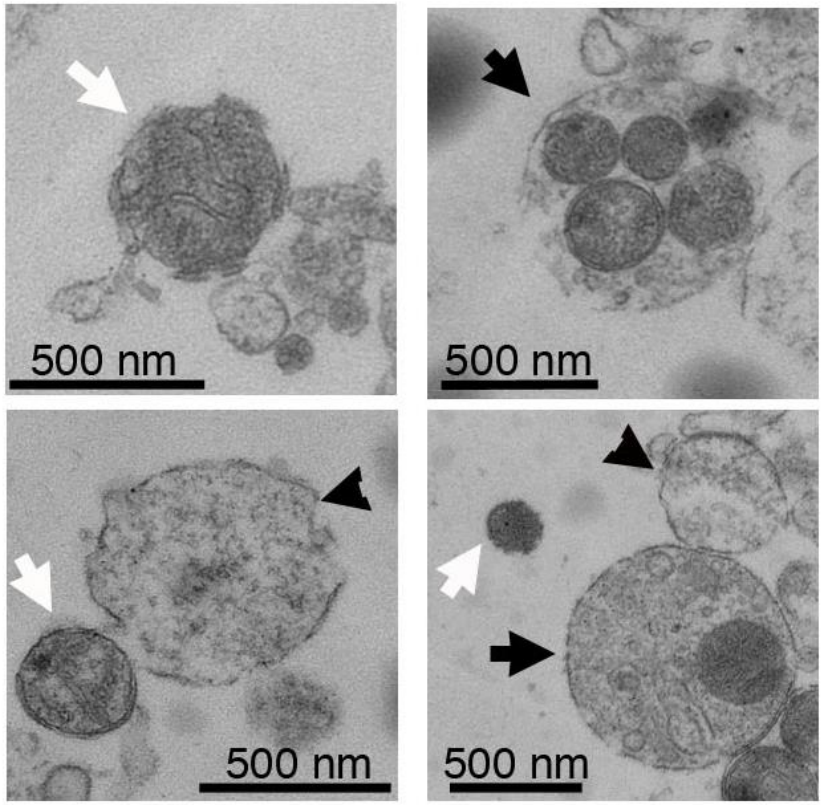
Transfused patients





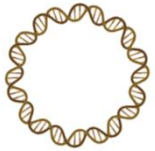
Transfused patients

Tissue and cellular injuries → Release of mitochondrial DAMPS → Immune activation → TRALI?



DAMPs derived from mitochondria

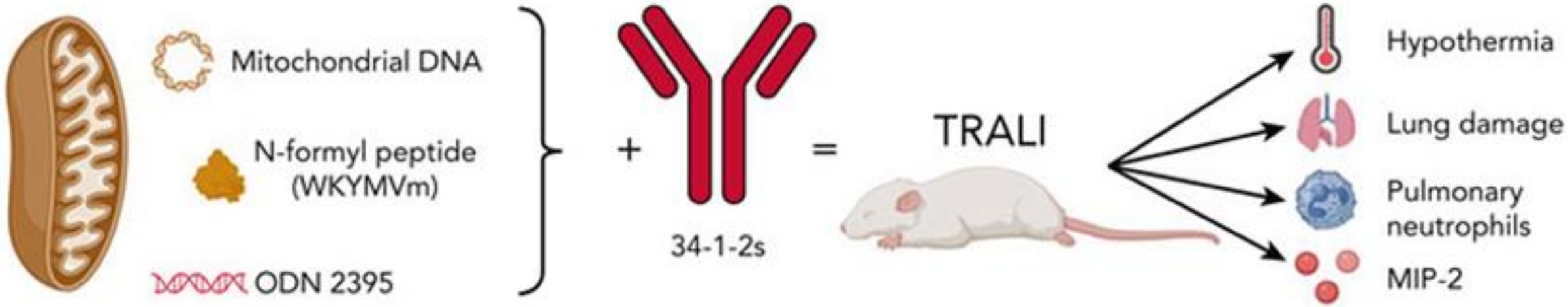
mtDNA
N-formyl peptides



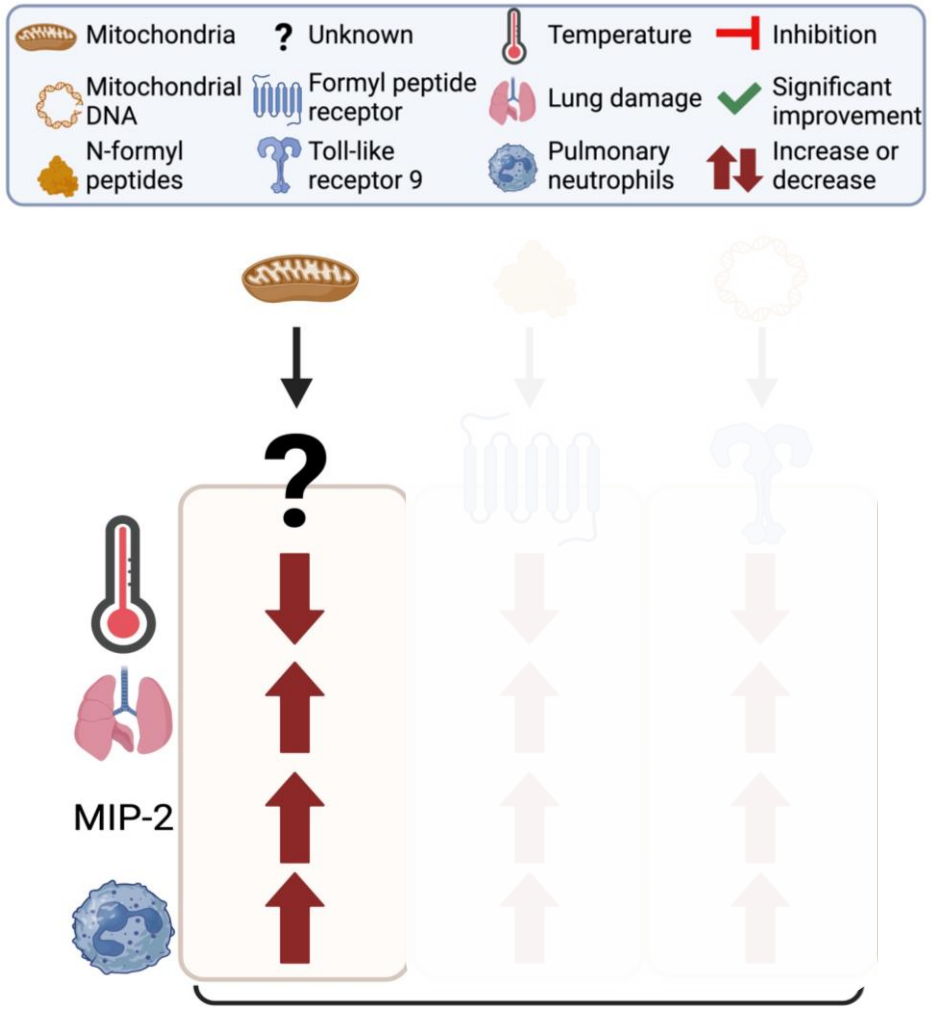
Cardiolipin
Cytochrome C
CPS-I
ATP

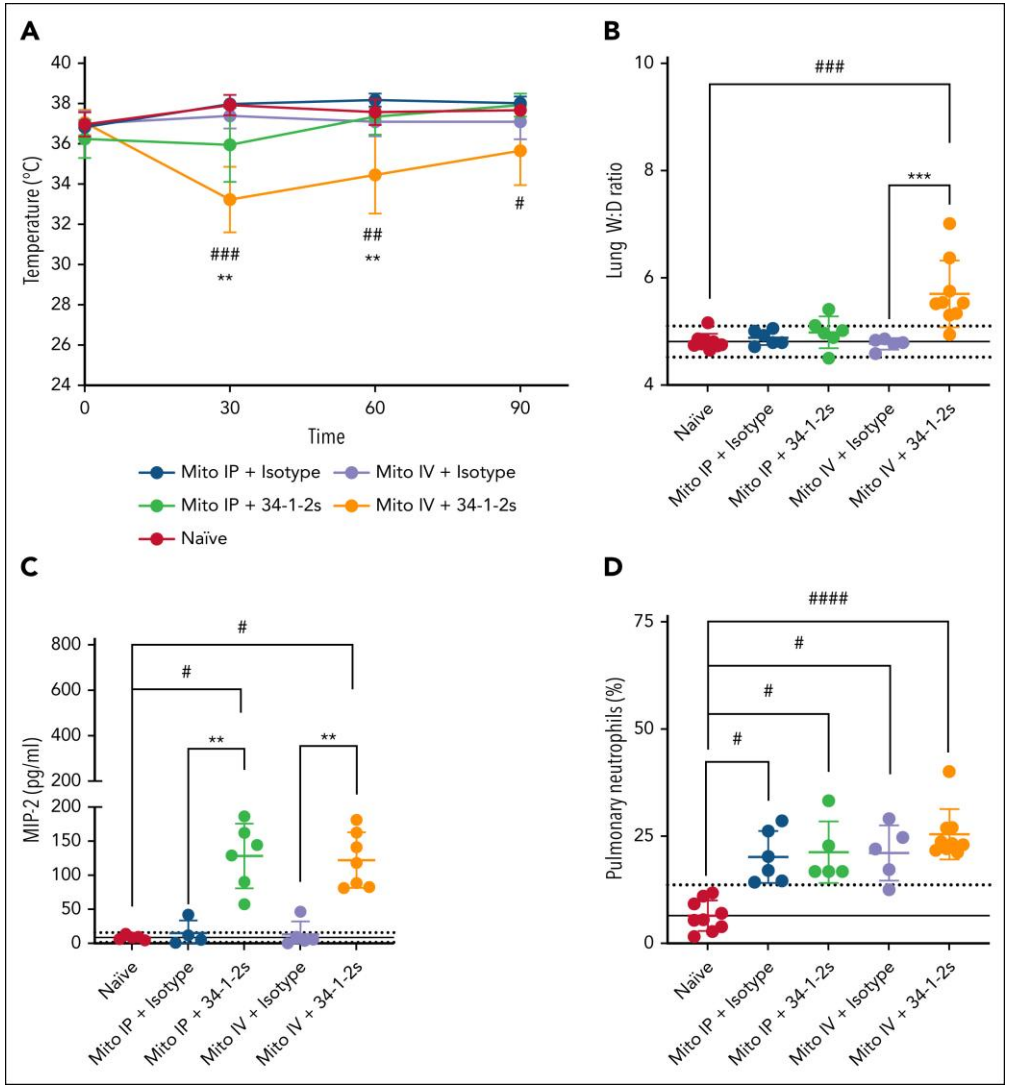
Boudreau et al. Blood (2014)

Murine model of antibody-mediated TRALI (revisited)



BALB/c mice undergo TRALI upon injection of isolated mitochondria





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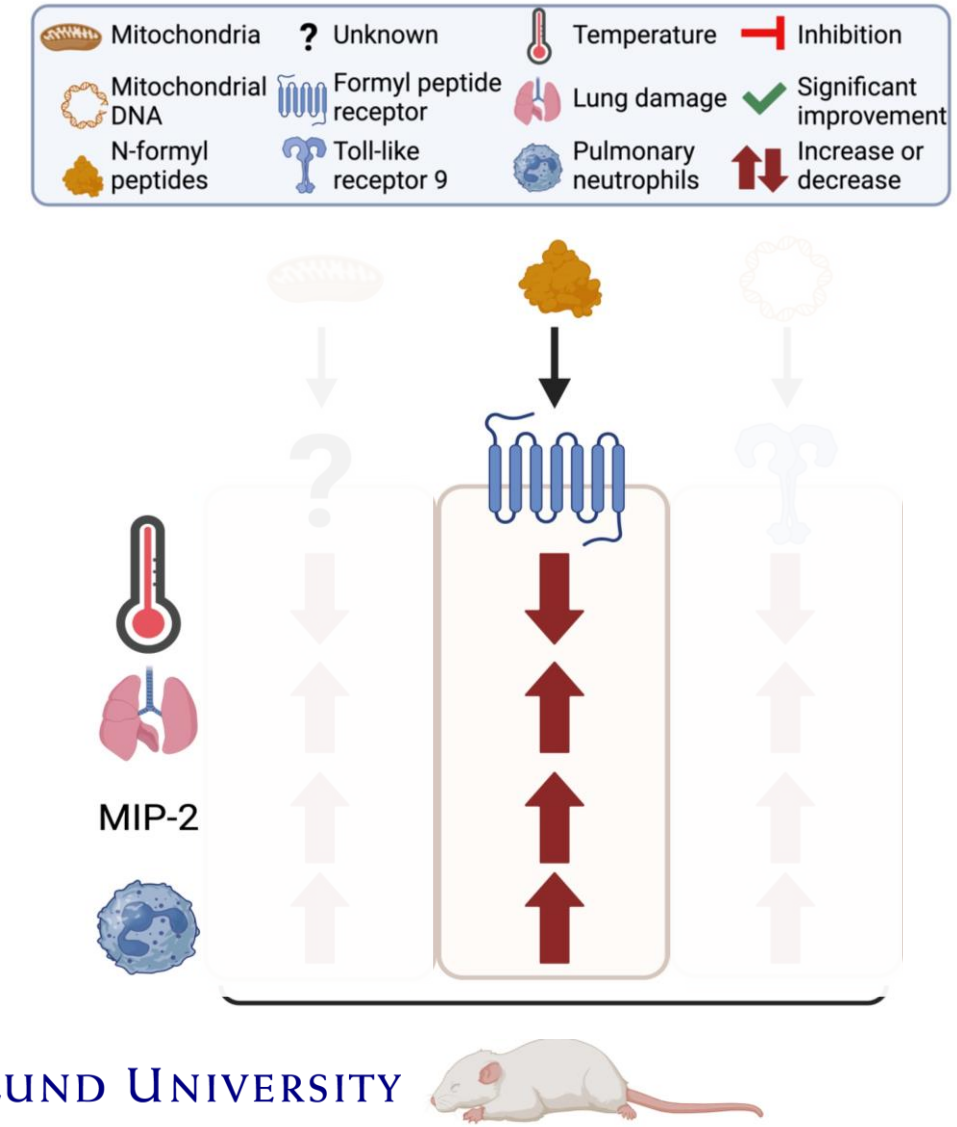
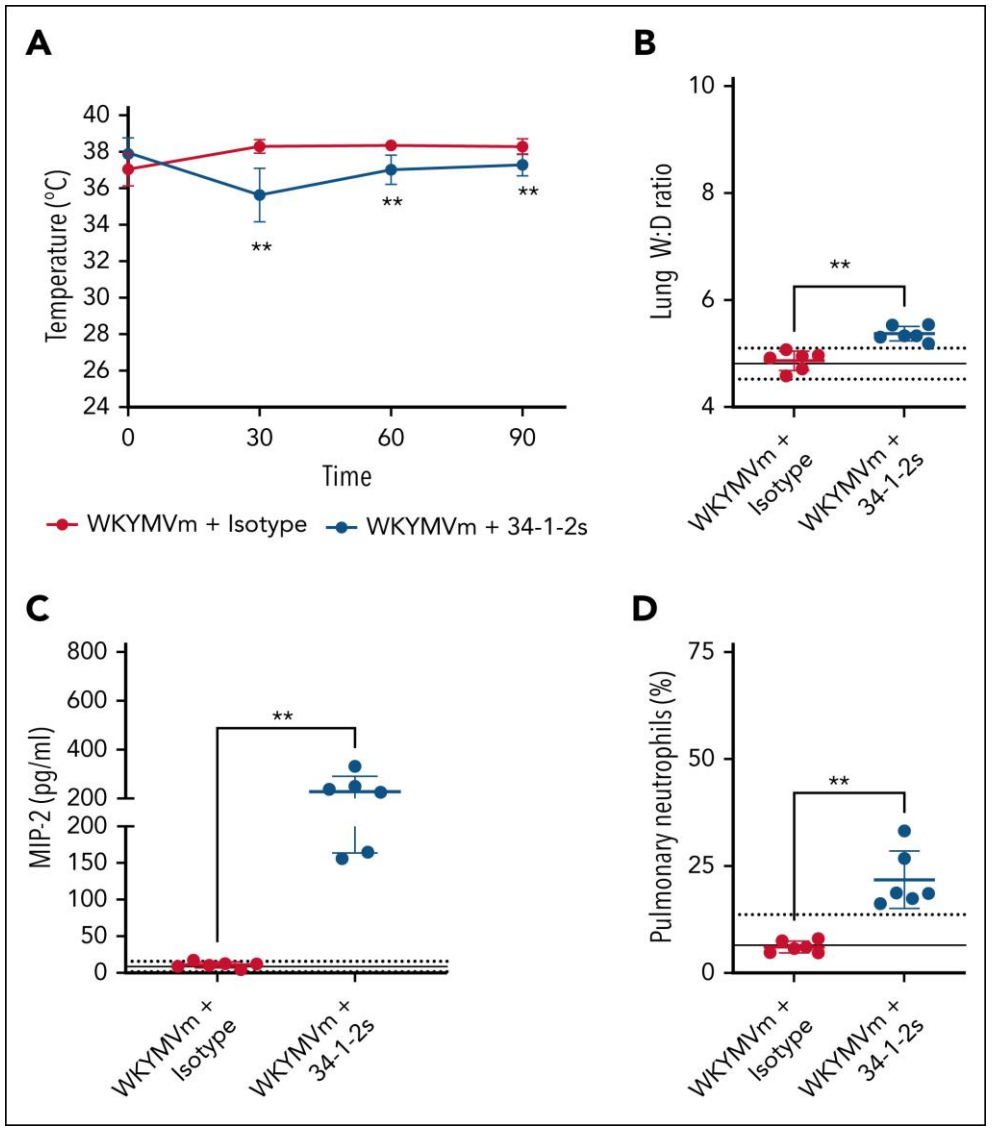
BALB/c mice undergo TRALI upon injection of mtDAMPs





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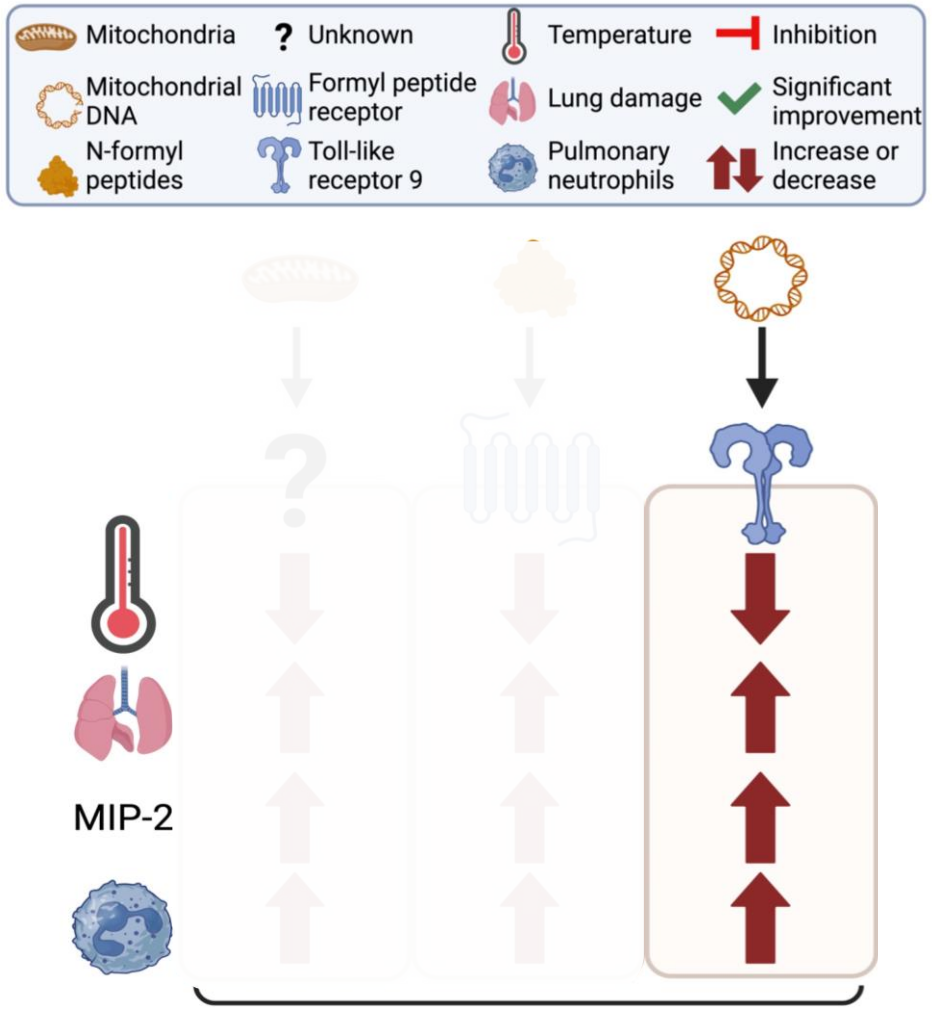
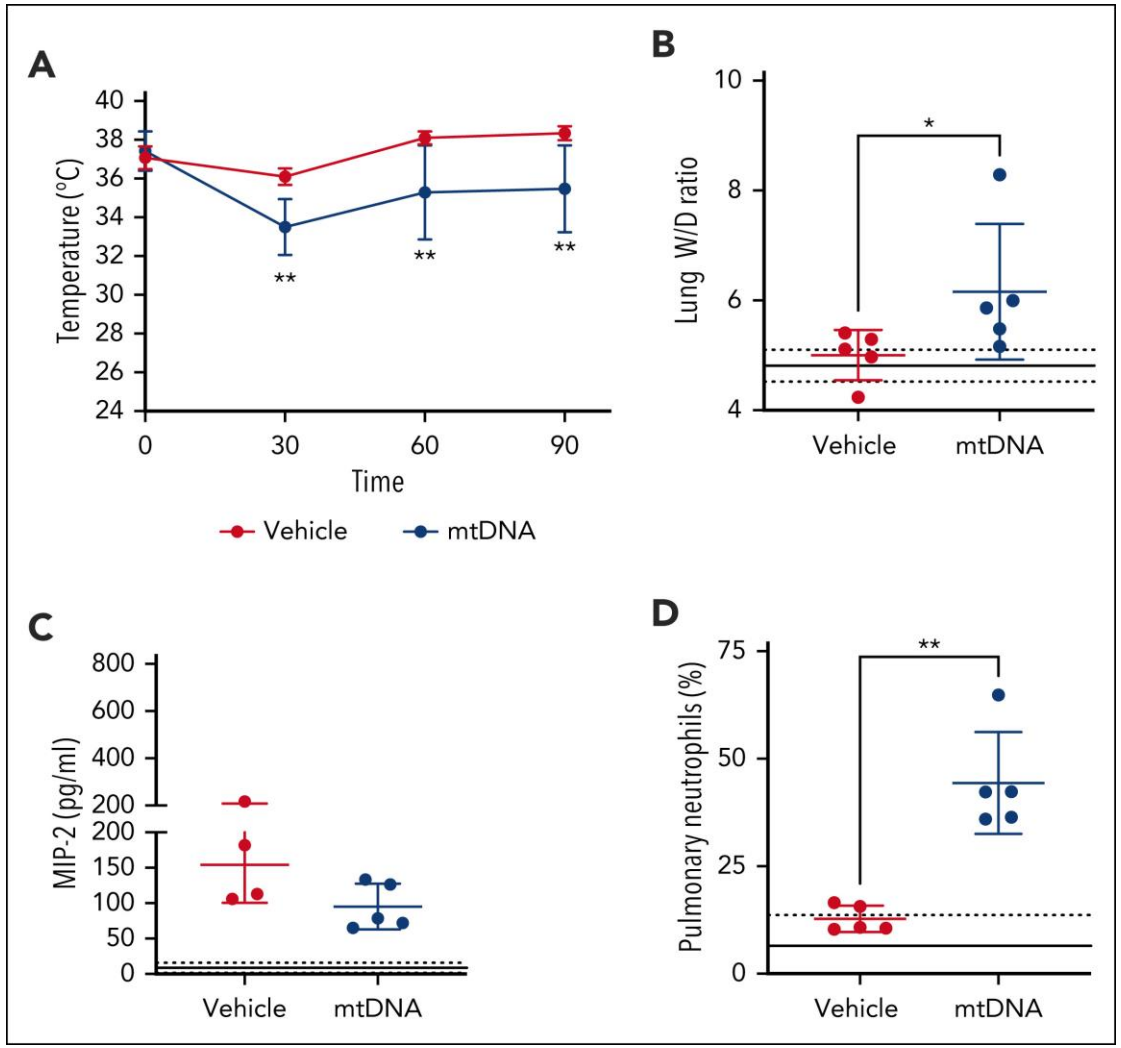
BALB/c mice undergo TRALI upon injection of mtDAMPs





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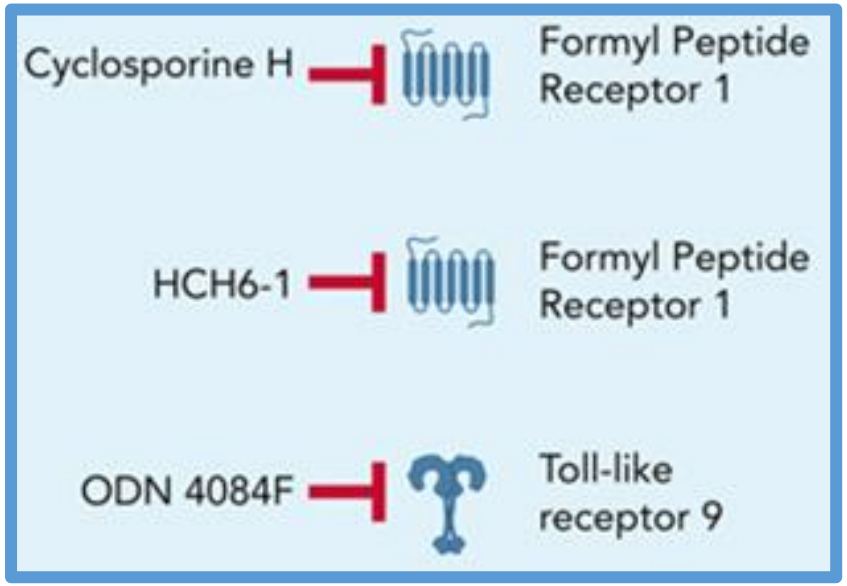
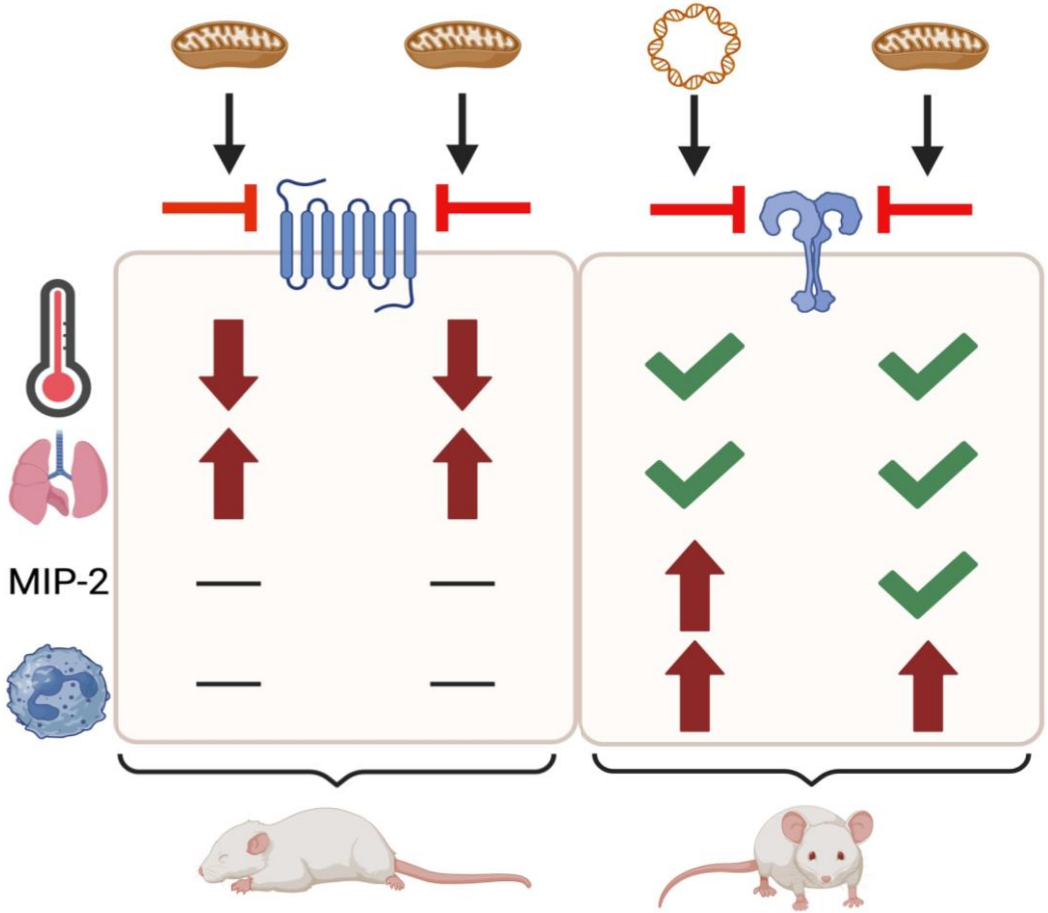
Therapeutic strategies tested





Conclusion

Mitochondrial DAMPs act as a potent first hit in transfusion-related acute lung injury via TLR9

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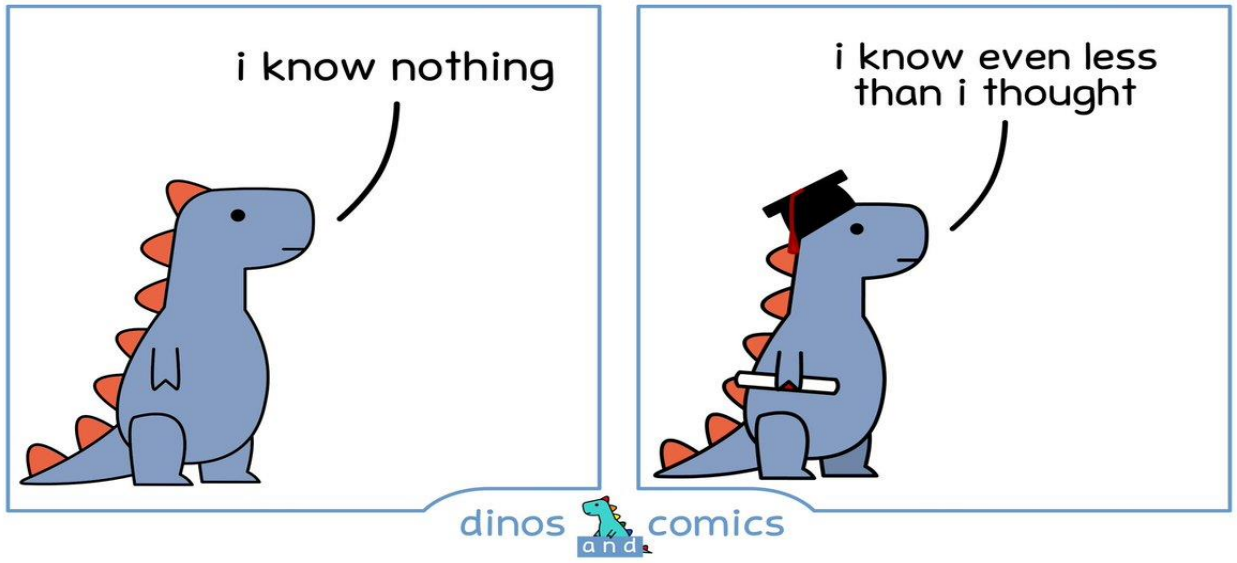
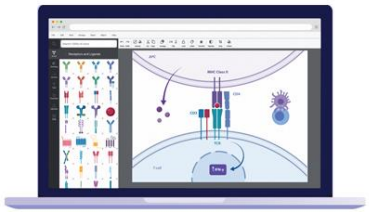


Swedish Research Council



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