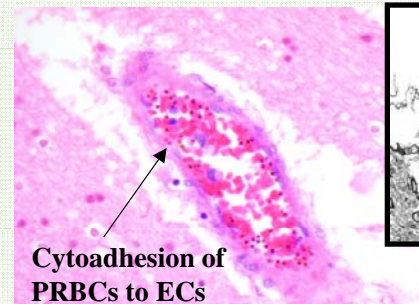




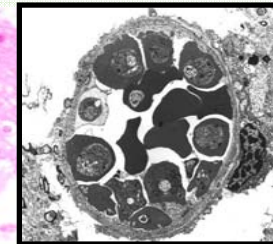
# FTY720 restores endothelial cell permeability induced by malaria sera

cytoadhesion & sequestration

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Sumate Ampawong<sup>1</sup>, Srivicha Krudsood<sup>2</sup>,  
Parnpen Viriyavejakul<sup>1,\*</sup>

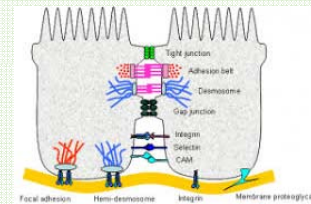
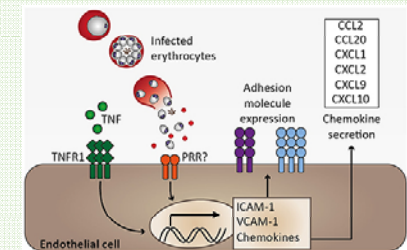


Cytoadhesion of PRBCs to ECs



With permission from Dr. E. Pongponratn

release of soluble cytokines



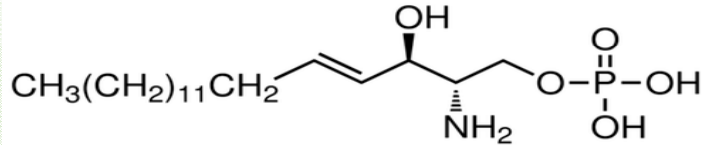
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†Both authors contributed equally to this study.

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# Objectives

S1P →



## FTY720

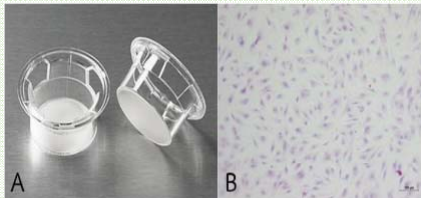
- an analogue of **sphingosine-1-phosphate (S1P)**
- has a potential action in maintaining EC integrity

- To investigate permeability changes of ECs exposed to malaria sera
- To evaluate the protective role of FTY720 in malaria sera induced EC permeability
- To evaluate the ability of FTY720 to reverse EC permeability induced by malaria sera

# Methods

## Cell permeability of ECs induced by malaria sera

Primary HUVECs on transwell inserts

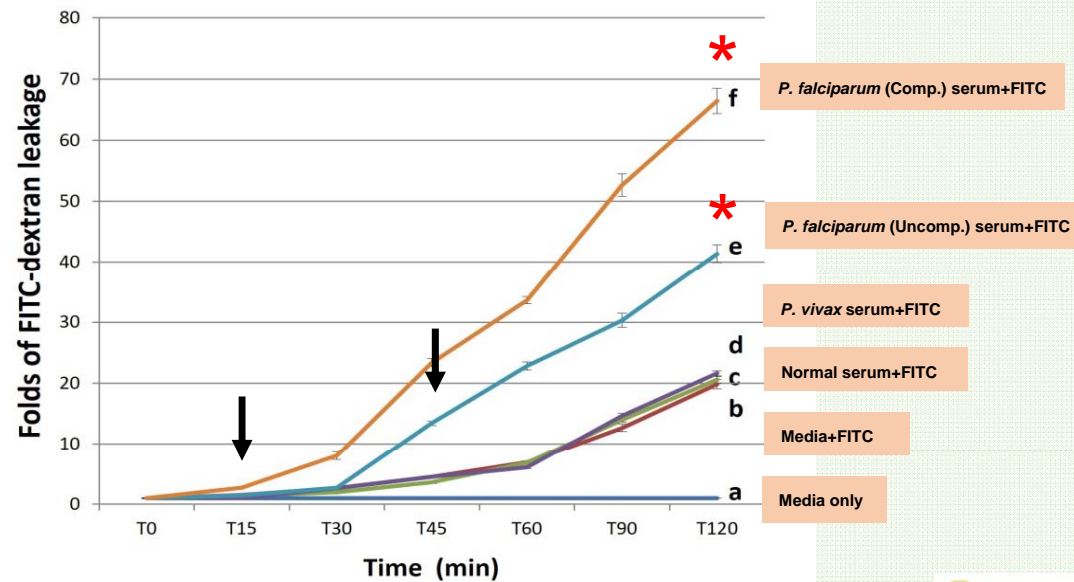


10% sera



Flourescence determination

# Results





# Protective role and effective treatment of FTY 720

## Protective role of FTY720 in malaria sera induced EC permeability

Pre-treatment of ECs with FTY720 (1  $\mu$ M) for 15 min



Replacement with malaria sera for 0, 15, 30, 45, 60, 90 and 120 min



No FTY720 treatment

FTY720 treatment

Flourescence determination

## Ability of FTY720 to reverse EC permeability

ECs incubated with malaria sera for 45 min



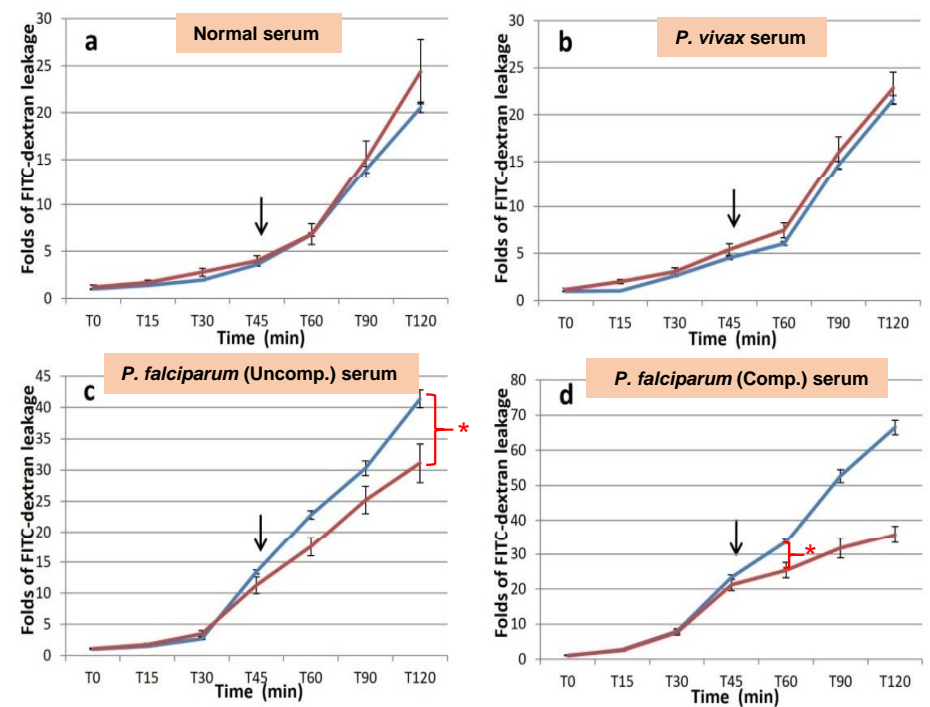
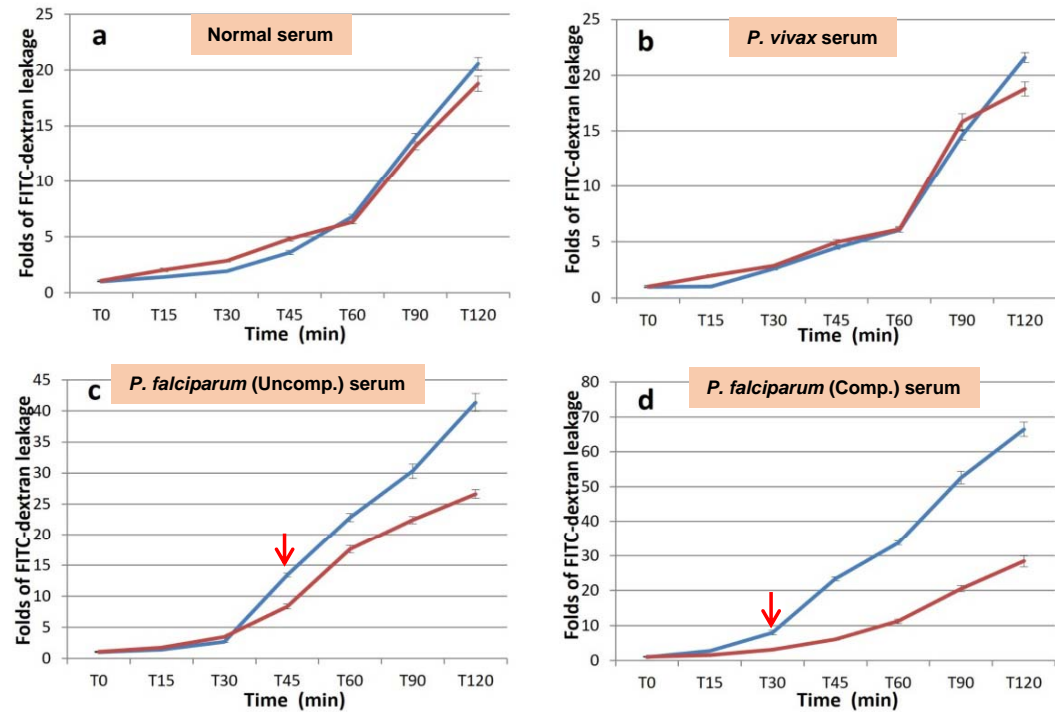
Replacement with FTY720 (1  $\mu$ M) for 0, 15, 30, 45, 60, 90 and 120 min



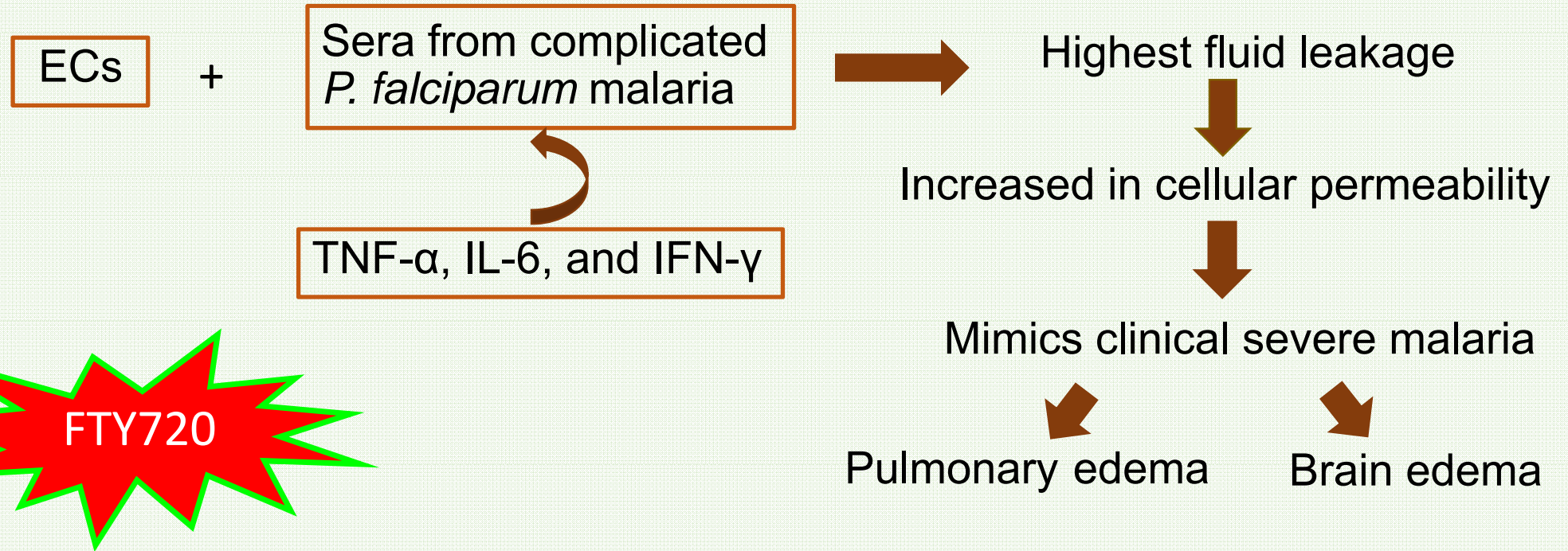
No FTY720 treatment

FTY720 treatment

Flourescence determination



## Discussion and Conclusions



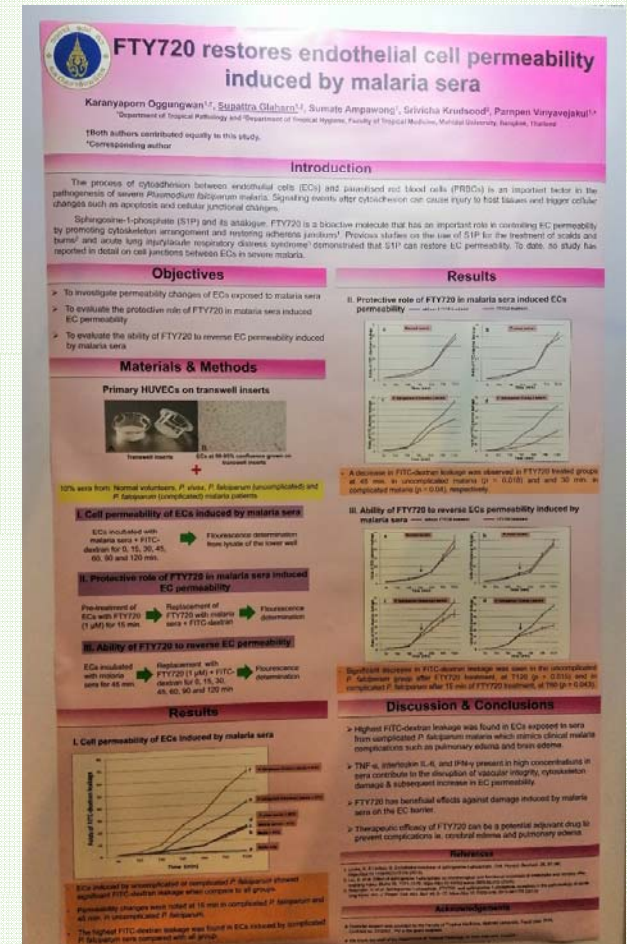
- favorable against damage induced by malaria sera on the EC barrier
- adjuvant drug to prevent severe malaria complications ie. cerebral edema and pulmonary edema





# ACKNOWLEDGEMENTS

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- Department of Tropical Pathology for their help and support



**Poster No.: 5**