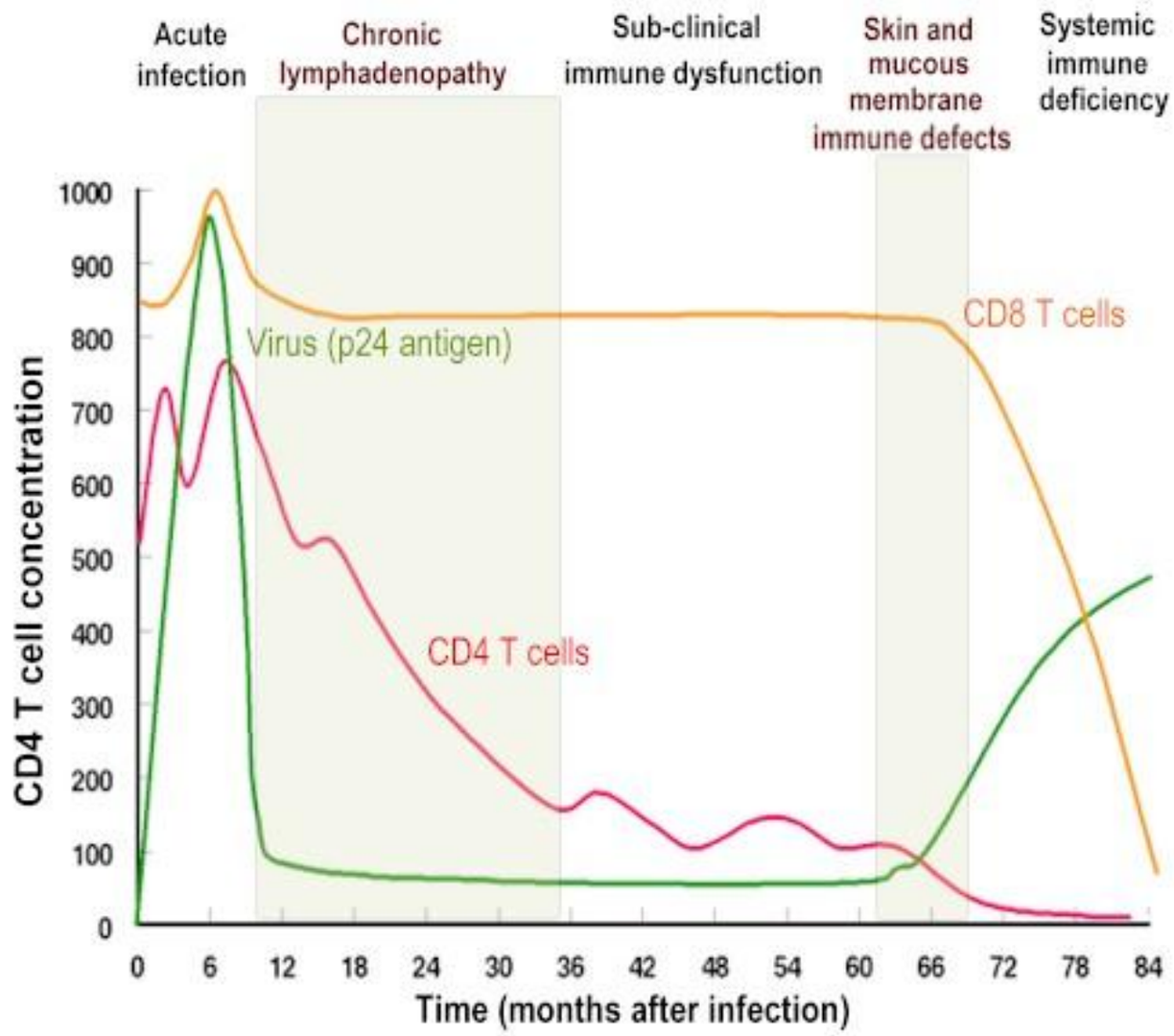
Regulatory B cells suppress HIV specific T cell responses

Wei Zhan

HIV infection



HIV pathogenesis

- HIV mutation
- CTL exhaustion
- Latency
- Regulatory B cell (Breg)-mediated suppression of HIV-specific CTL

Breg

- secrete IL-10 upon microbial metabolite stimulation
- ameliorate autoimmune diseases in mice
- Used by MMTV to evade immune response

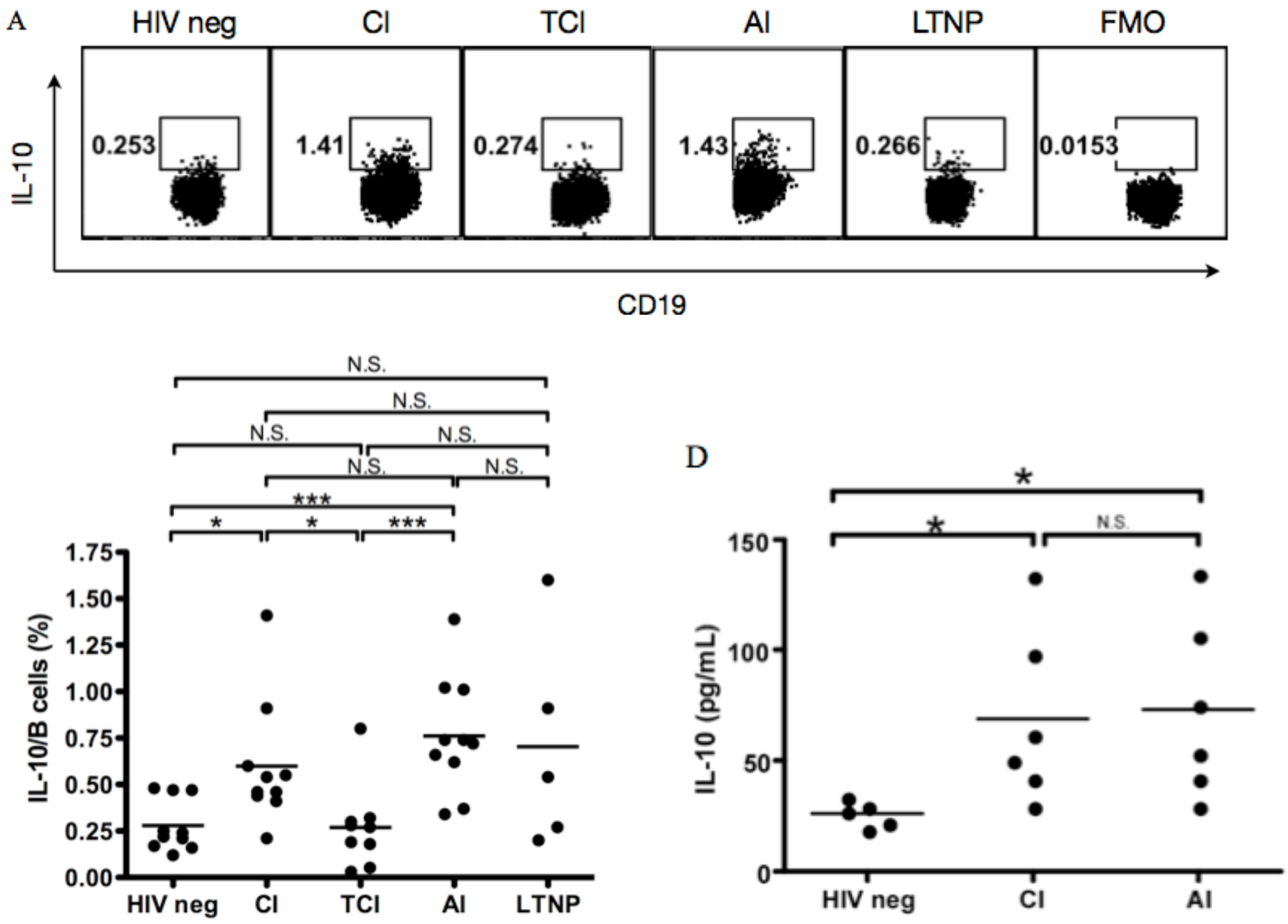
Breg in HIV?

- HIV-infection results in chronic influx of microbial material.
- This can potentially upregulate Breg cells.
- Is HIV using this mechanism to suppress HIV specific immunity?

Breg in HIV?

- Is there higher % Breg in HIV-infected individuals?
- Is the Bregs in HIV-infected individuals suppress HIV specific immunity?
- Does this suppression contribute to HIV mediated pathogenesis?

Is there higher % Breg in HIV-infected individuals?



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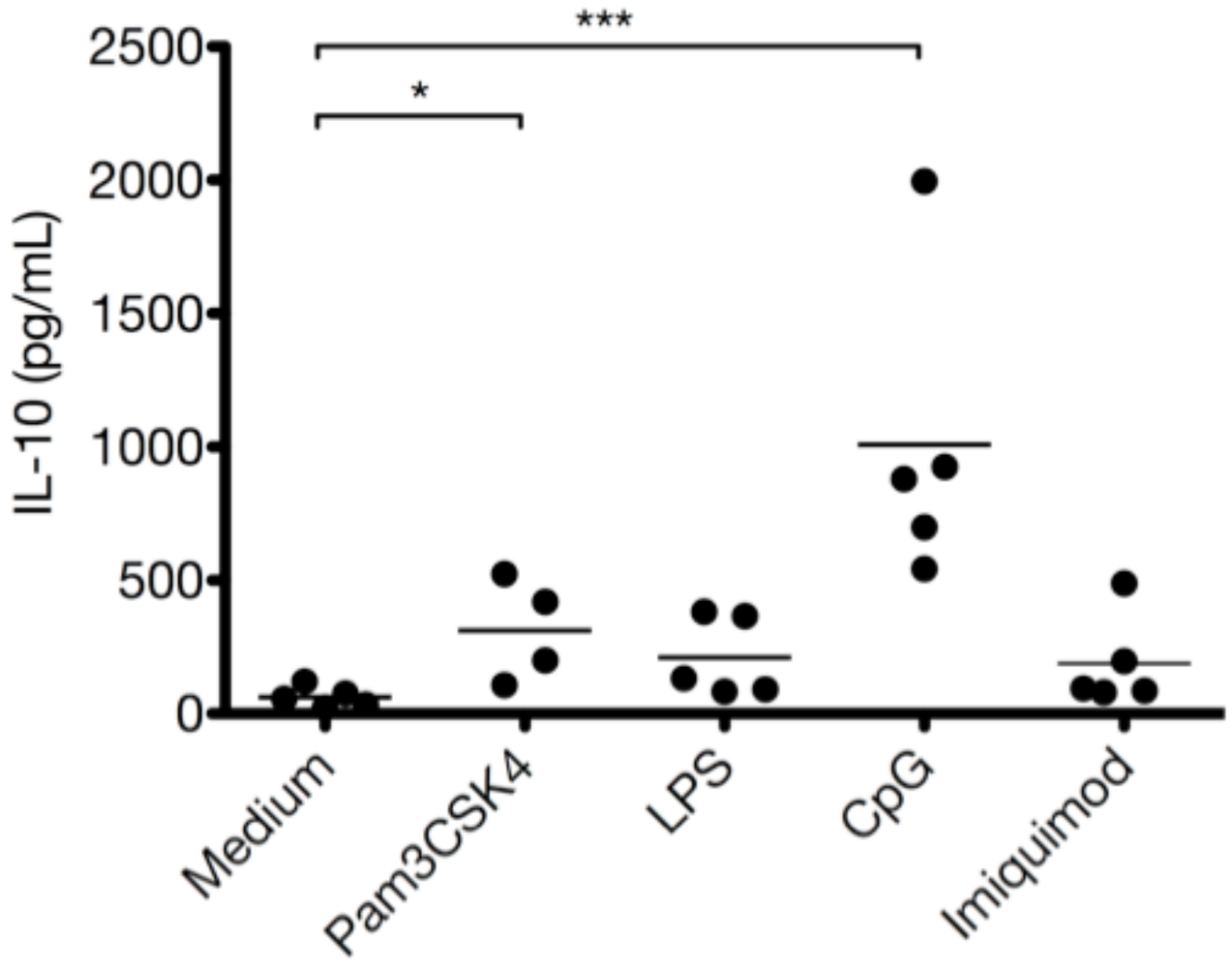
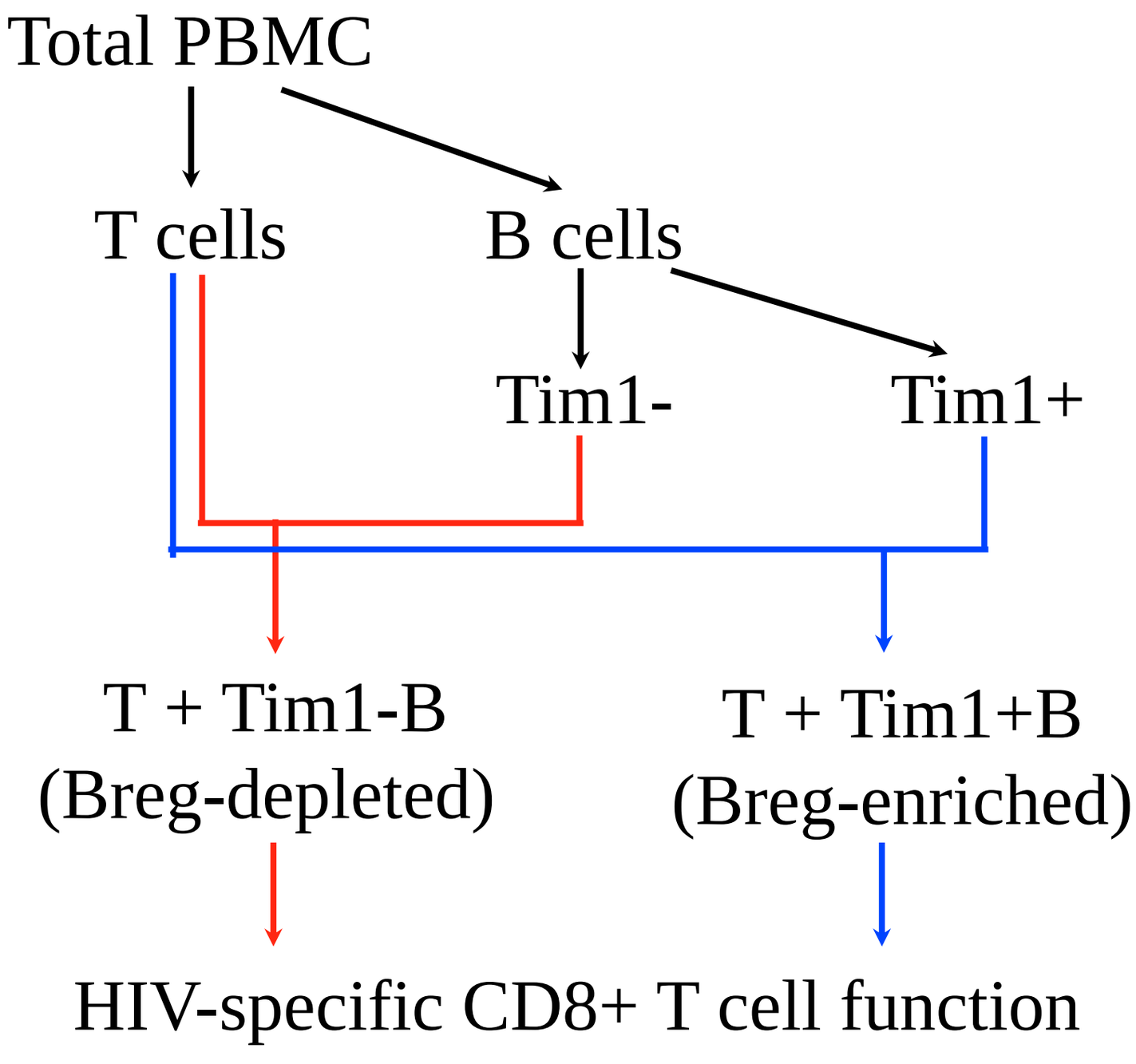


Is the Bregs in HIV-infected individuals suppress HIV specific immunity?



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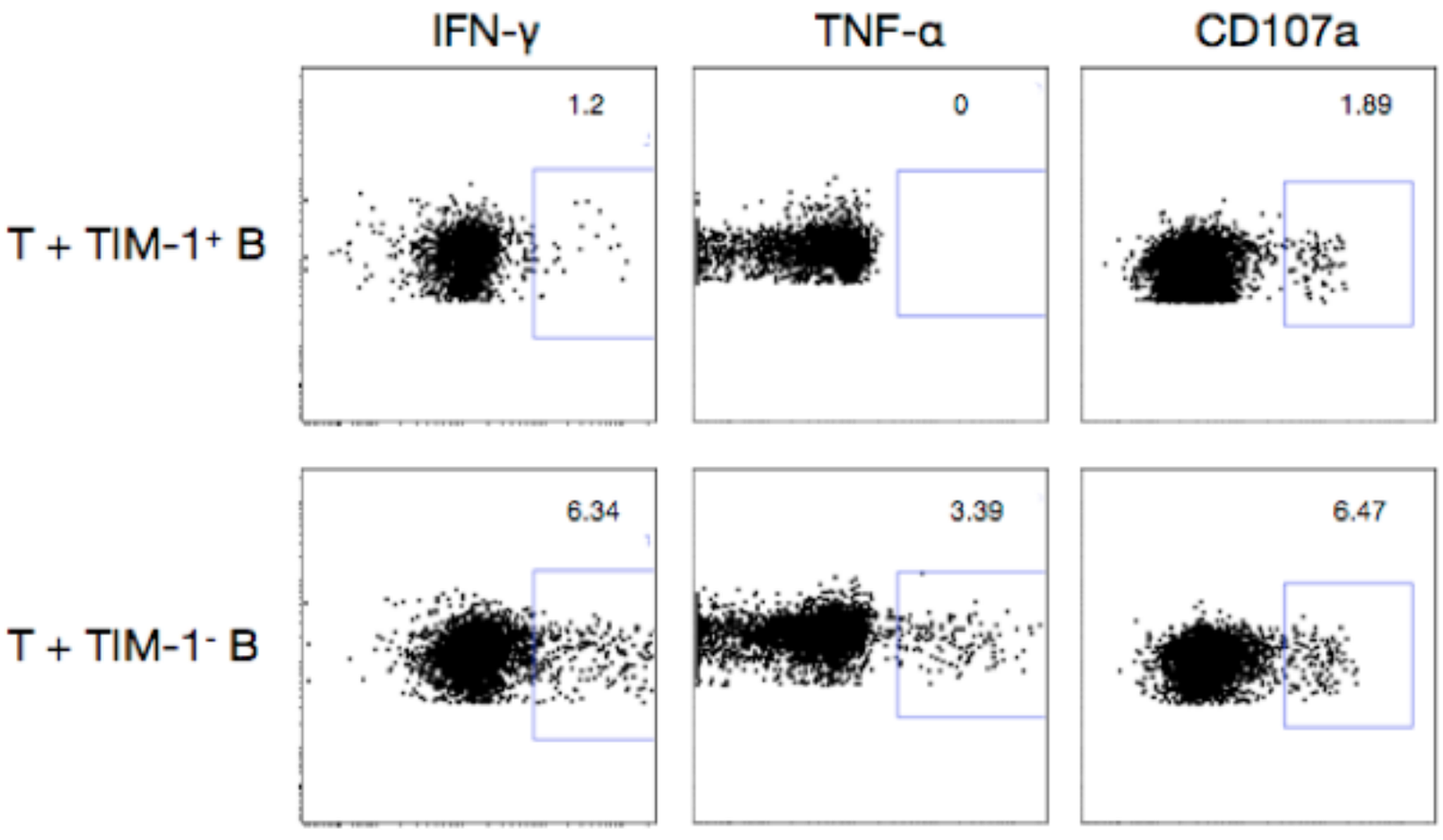

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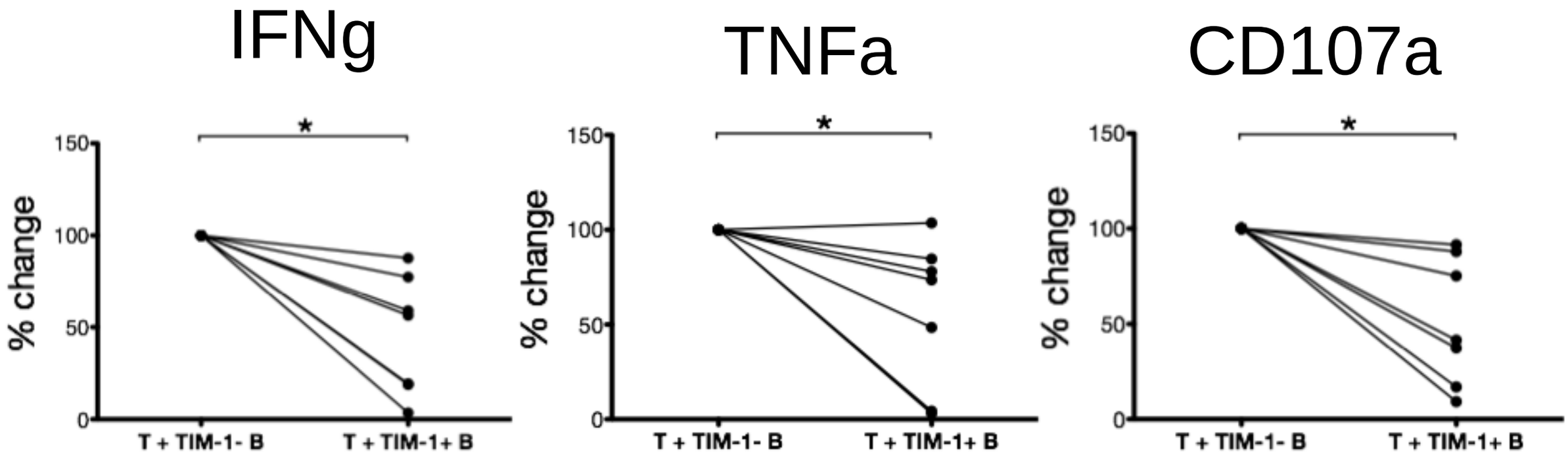

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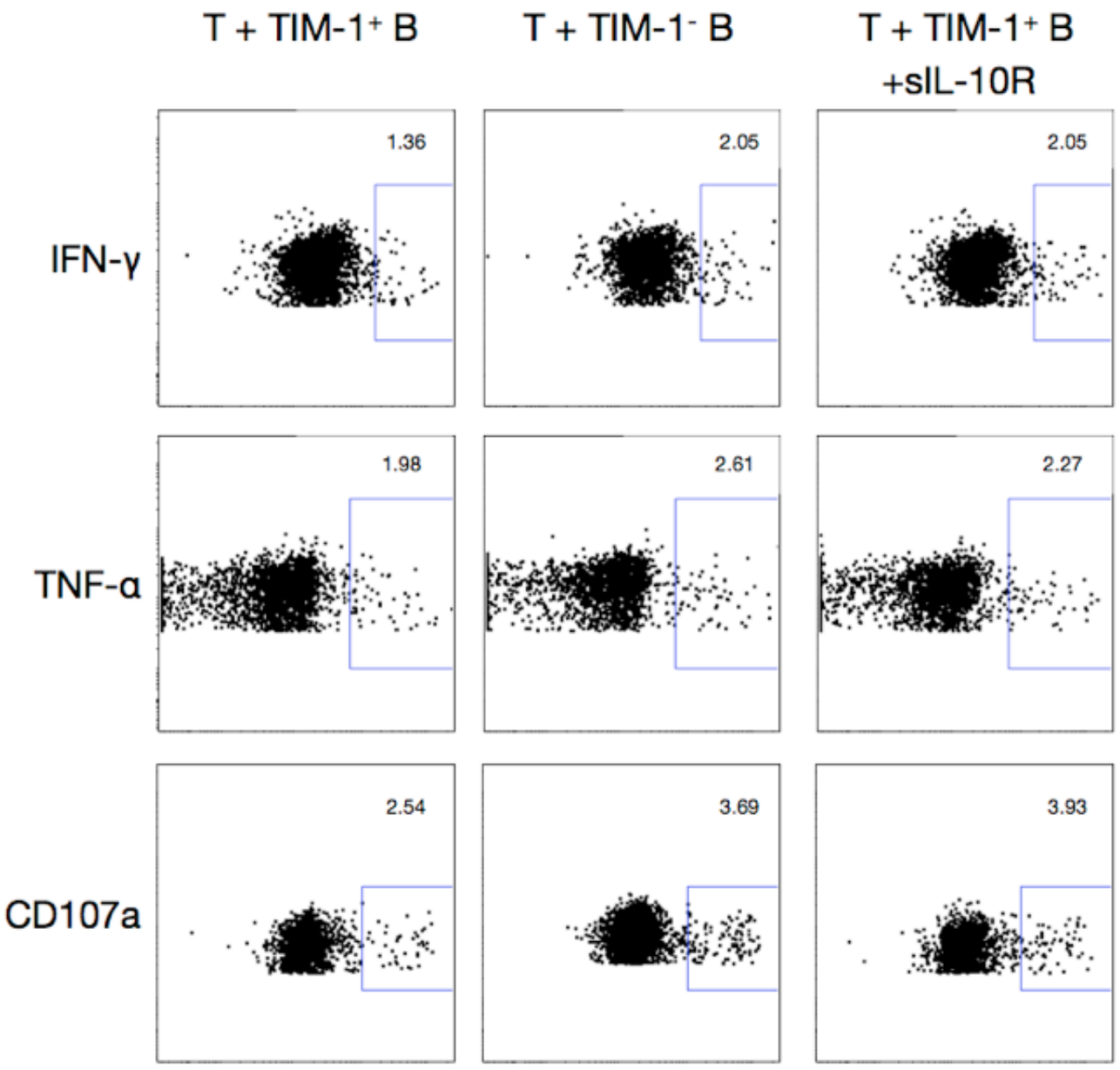
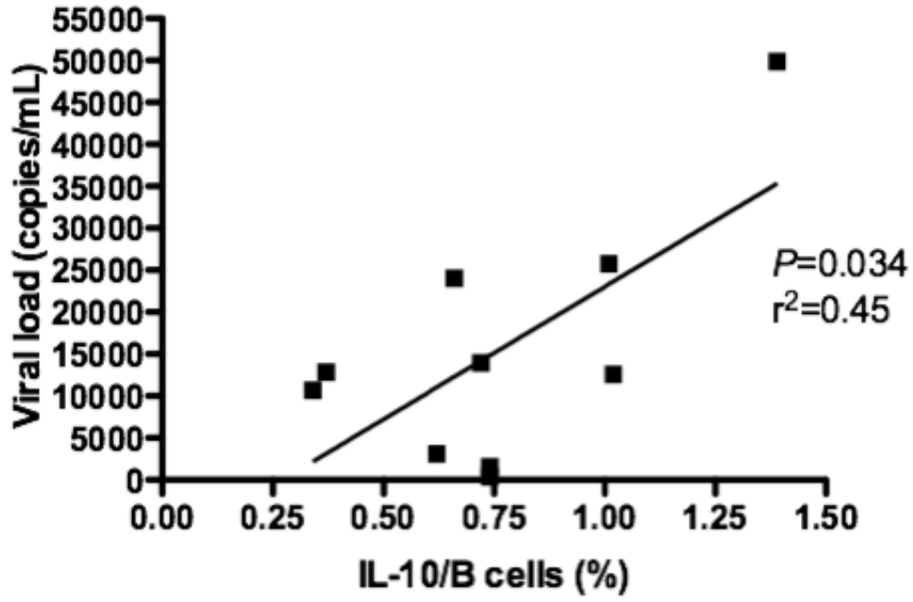
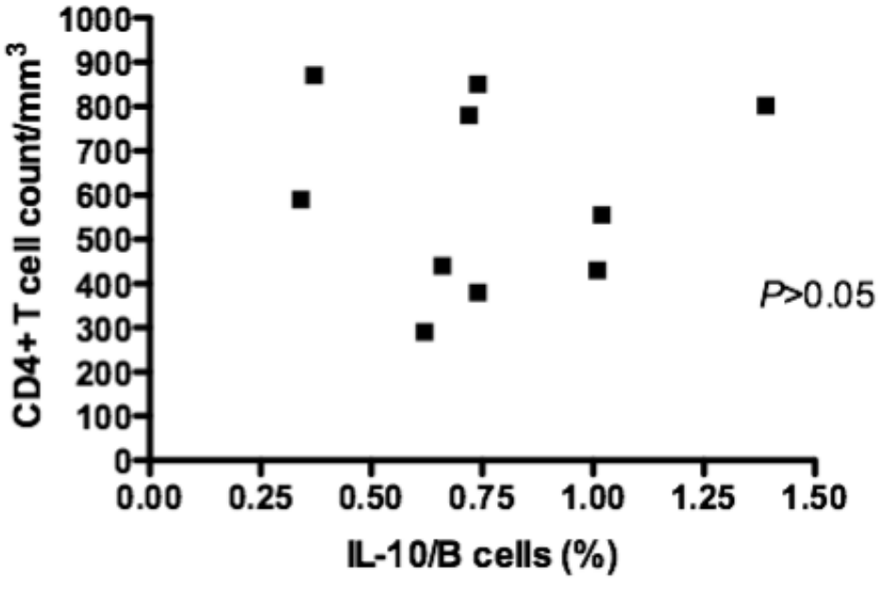


Does this suppression contribute to HIV mediated pathogenesis?





Conclusion

- There is higher % Breg in HIV-infected individuals, possibly due to microbial translocation.
- Breg in HIV-infected individuals suppresses anti-HIV inflammation by CD8+ T cells.
- Frequency of Breg is positively correlated with viral load.

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