

Towards a Natural HIV Sterilizing Cure: Long-Term Elite Controllers

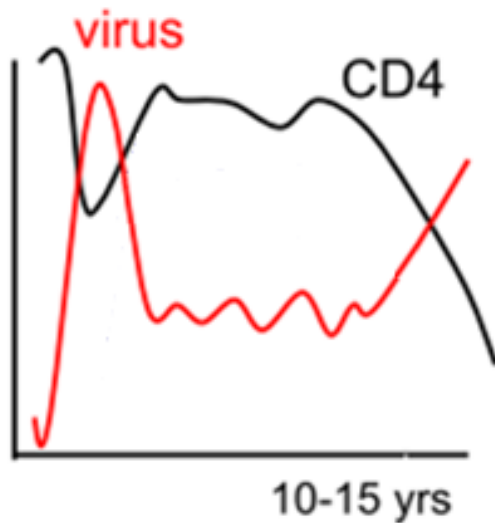
Cristina Gálvez, Maria Salgado, Carmen Rodríguez, Jorge Del Romero,
Concepción Casado, María Pernas, Cecilio López-
Galindez, Javier Martinez-Picado



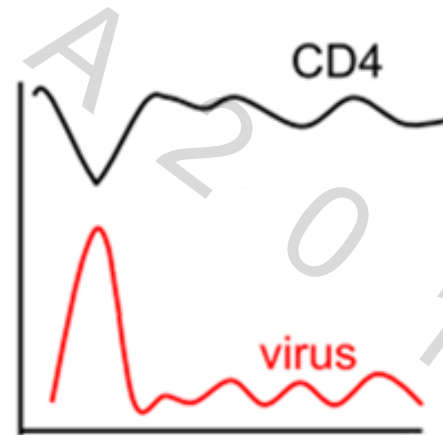
Background

- Elite Controller (EC)
 - Absence of treatment
 - Plasma HIV RNA <50 copies/ml
 - High levels of CD4⁺ T cells

Standard progressor



Elite controller

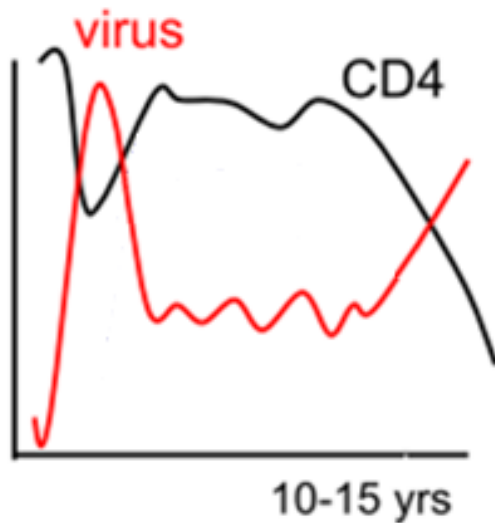




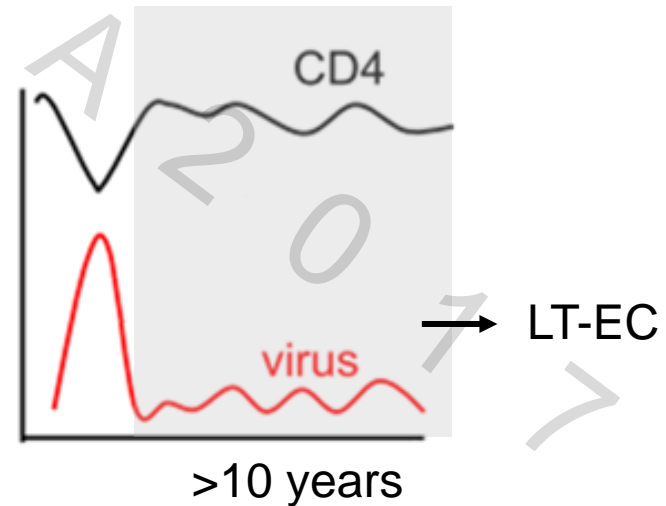
Background

- Elite Controller (EC)
 - Absence of treatment
 - Plasma HIV RNA <50 copies/ml
 - High levels of CD4⁺ T cells
 - **Asymptomatic >10 years after infection → Long-Term EC**

Standard progressor



Elite controller





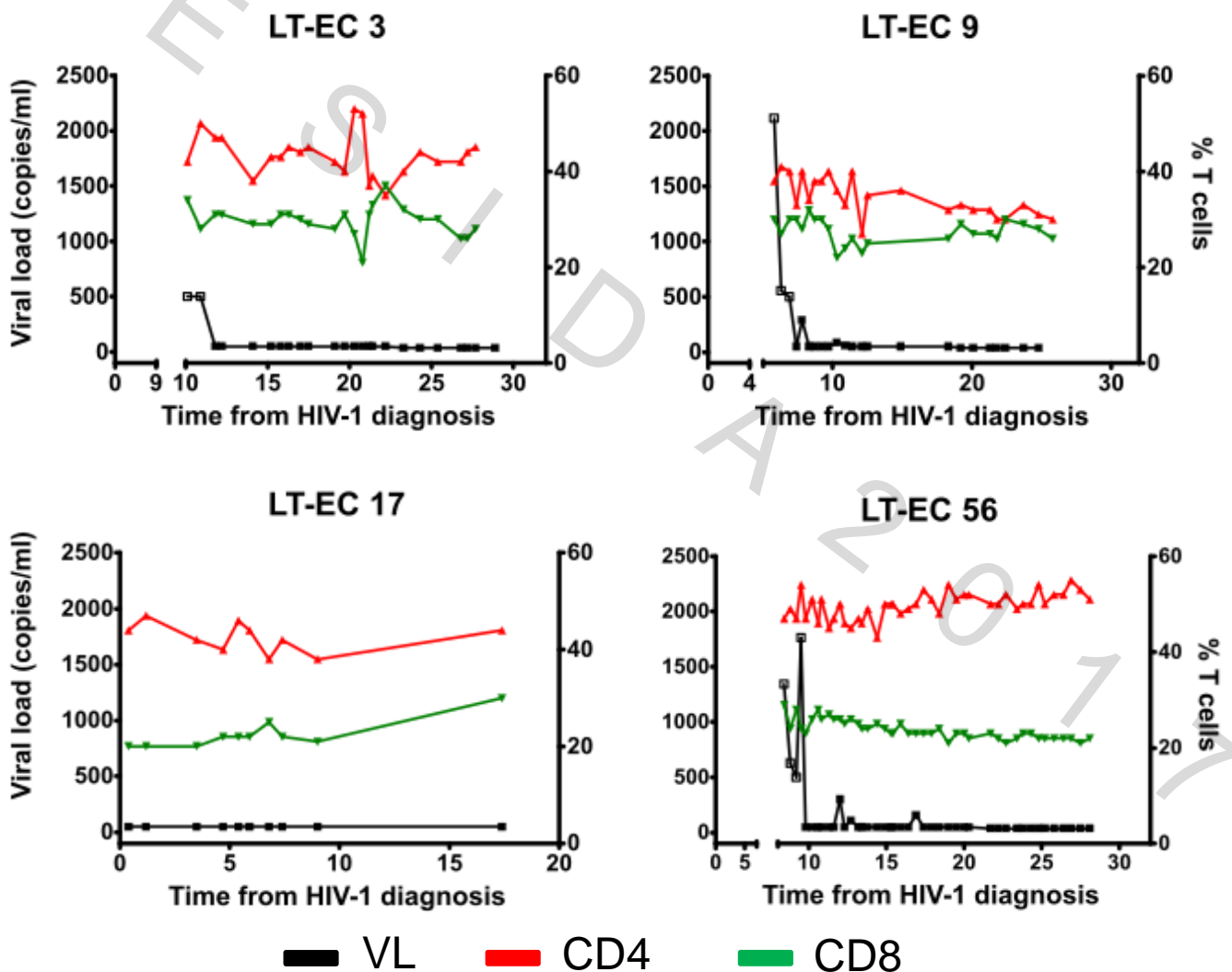
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Have this LT-EC achieved sterilizing cure?



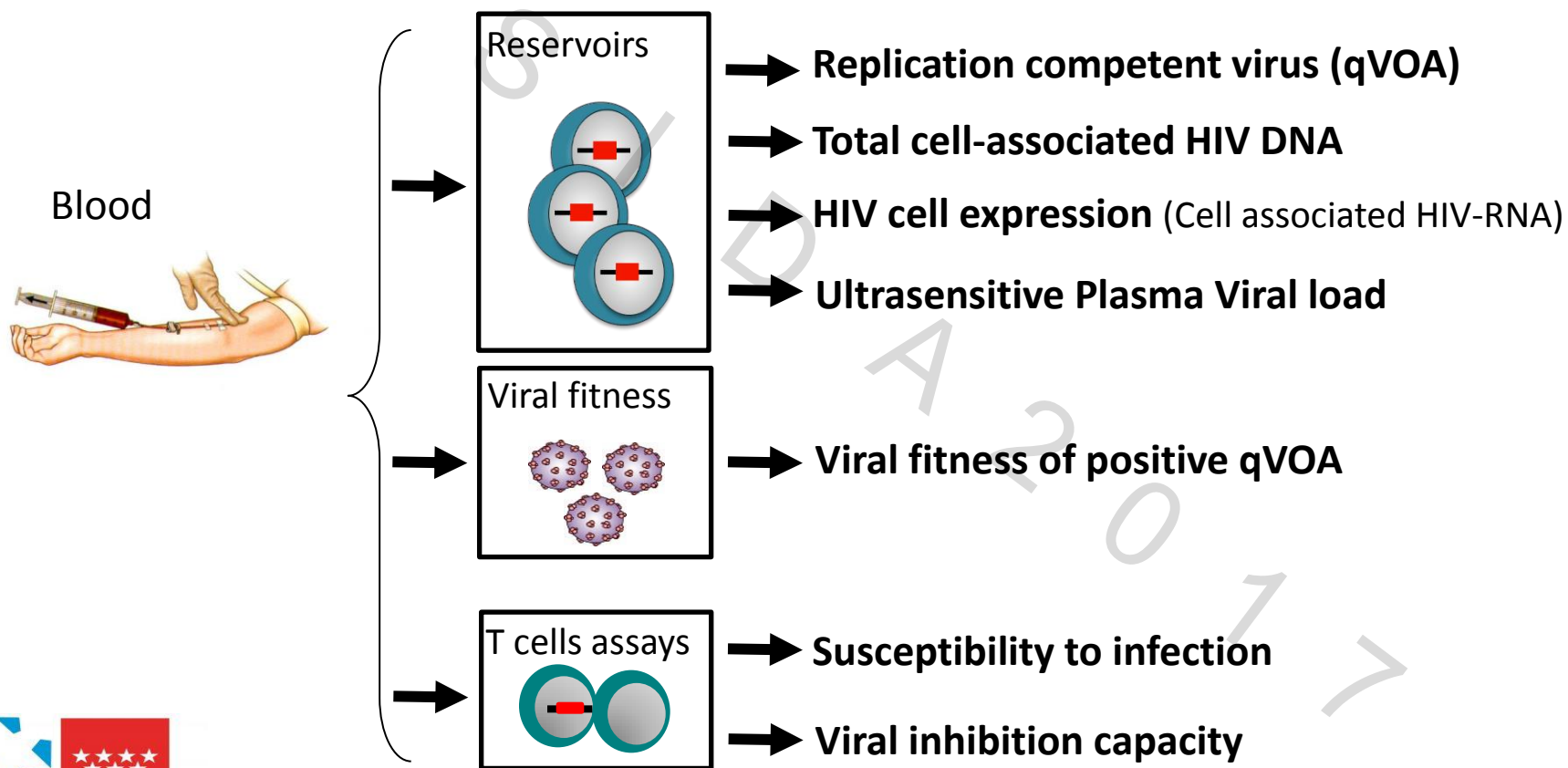
Methods

4 LT-EC infected 18-28 years (Centro Sanitario Sandoval)



Methods

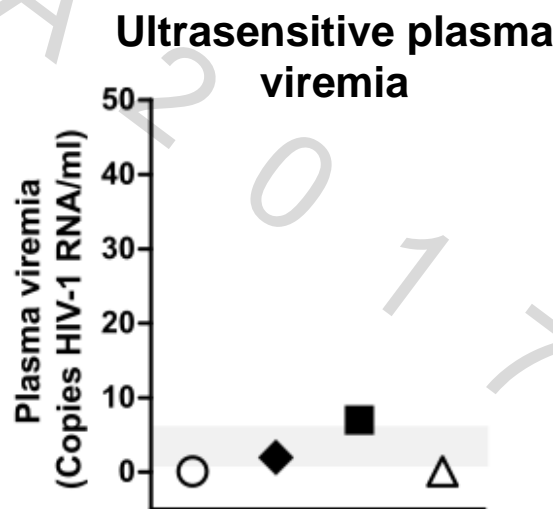
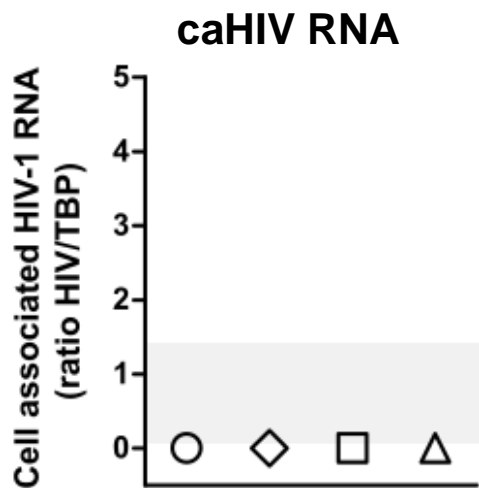
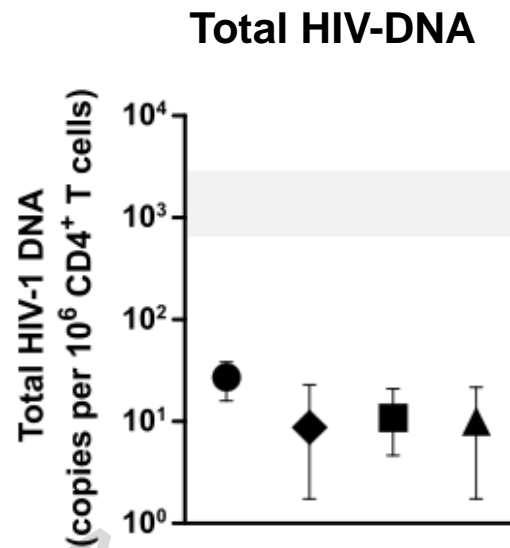
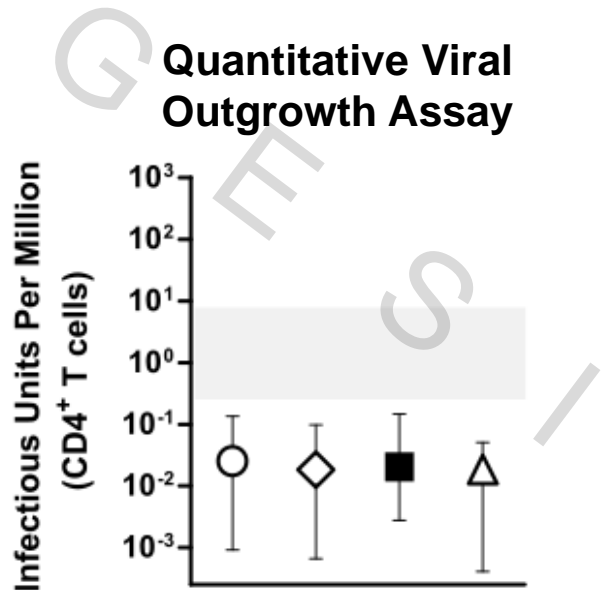
4 LT-EC infected 18-28 years (Centro Sanitario Sandoval)



LT-EC show low levels of reservoirs and viral transcription



Open symbols indicate undetectable values

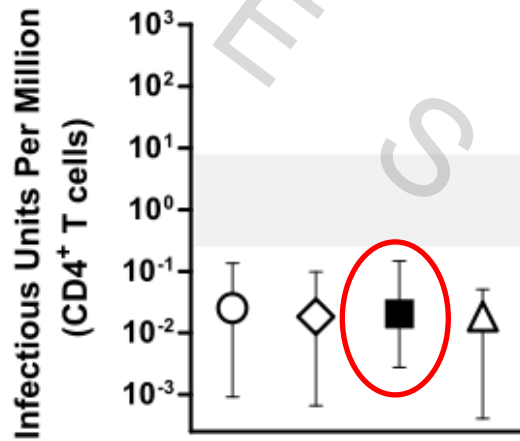


Low fitness of virus LT-EC 17

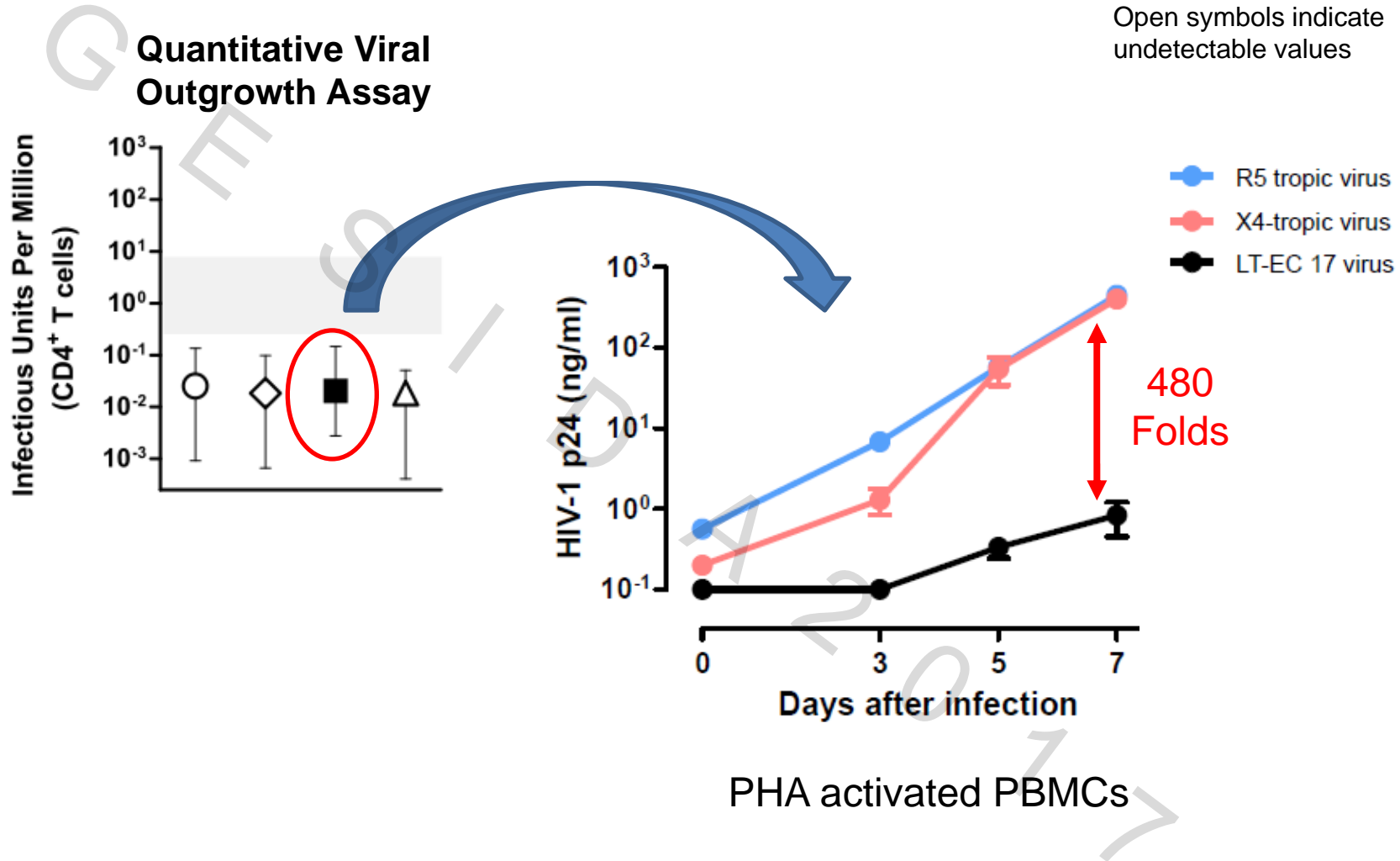


Open symbols indicate undetectable values

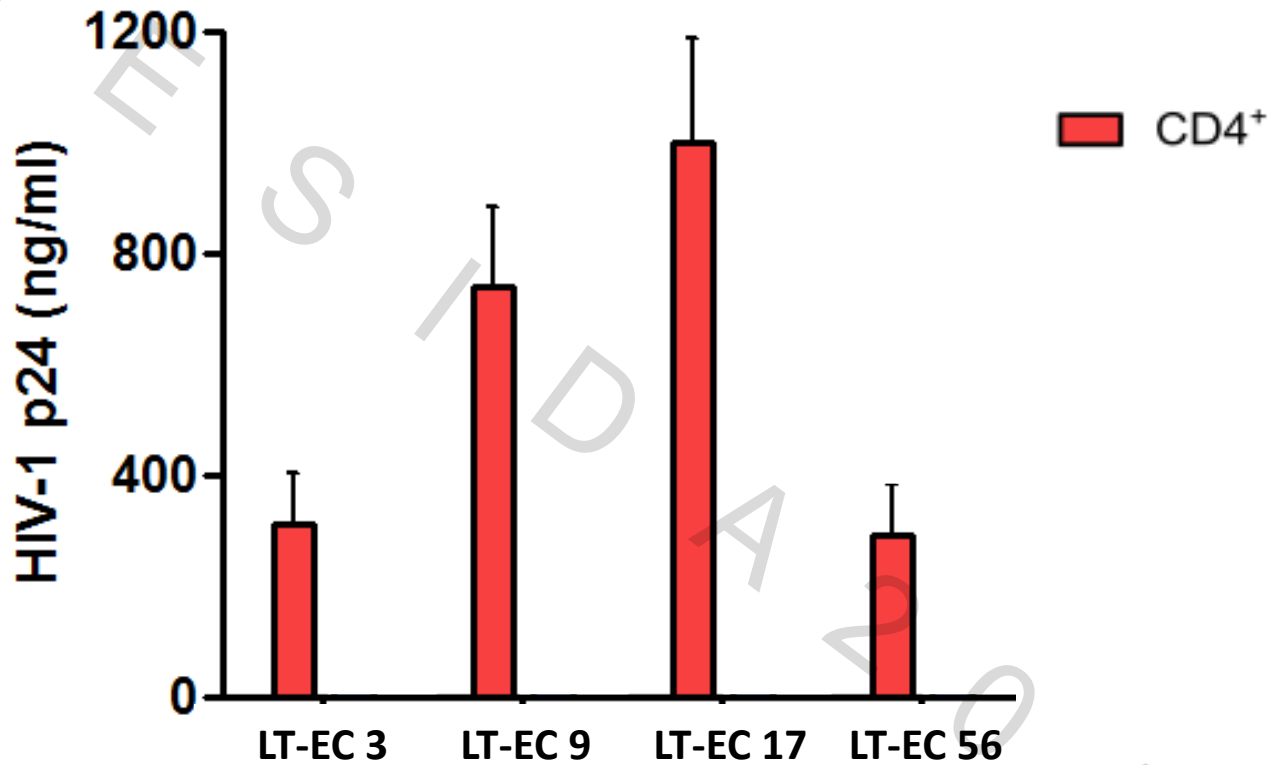
Quantitative Viral Outgrowth Assay

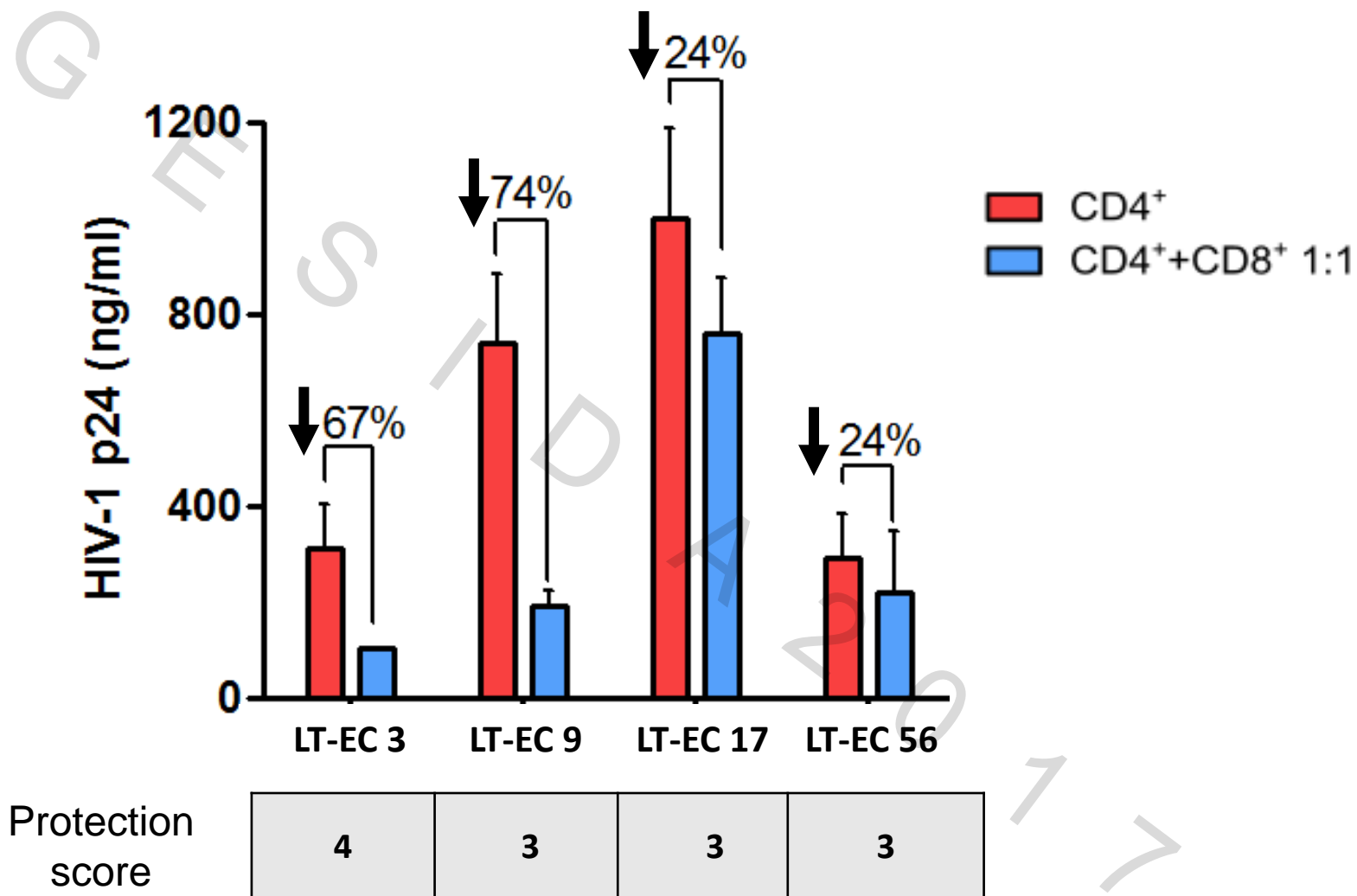


Low fitness of virus LT-EC 17



CD4⁺ T cells are susceptible to infection



CD8⁺ T cells are able to partially inhibit infection



Conclusion

- Reservoir measurements in LT-EC are lower than in standard treated patients
- Fitness-impaired of replication replicative competent virus
- Cellular immunity of LT-EC partially control HIV infection
- LT-EC represent cases of spontaneous functional cure that are close to the concept of sterilizing cure being a good model to eradication strategies

IrsiCaixa

Institut de Recerca de la Sida

Maria Salgado

Judith Dalmau

M^a Carmen Puertas

Víctor Urrea

Silvia Bernal

Nuria Izquierdo-Useros

Itziar Erkizia

Susana Benet

Daniel Pérez

Javier Martinez-Picado

Bonaventura Clotet



...ALL THE PATIENTS!



Carmen Rodriguez
Jorge Del Romero



Instituto de Salud Carlos III

Concepción Casado
Maria Pernas
Cecilio López-Galindez



HOSPITALES UNIVERSITARIOS
Virgen del Rocío

Ezequiel Ruiz Mateos



RETIC-RIS

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