Citrate Carrier links intermediate metabolism to histone acetylation and cell fate upon ageing of mouse mesenchymal stem cells

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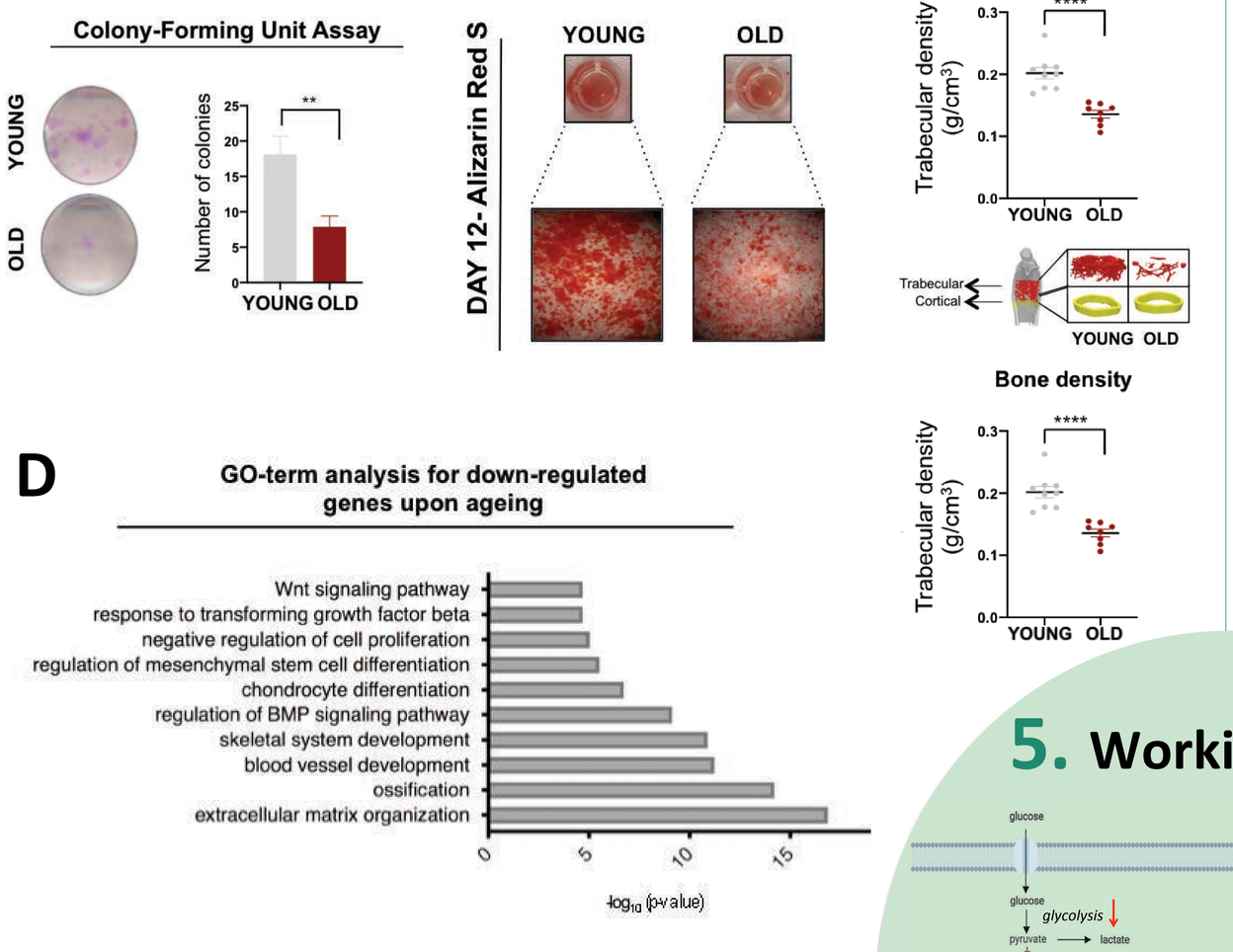
Introduction

The process of ageing is accompanied by changes in metabolism and by chromatin alterations. However, their interplay in this context remains still poorly understood. In this study, we sought to determine how ageing impinges on the relationship between cellular metabolism, chromatin and stem cell potency, using mouse mesenchymal stem cells from the bone-marrow (BM-MSCs).

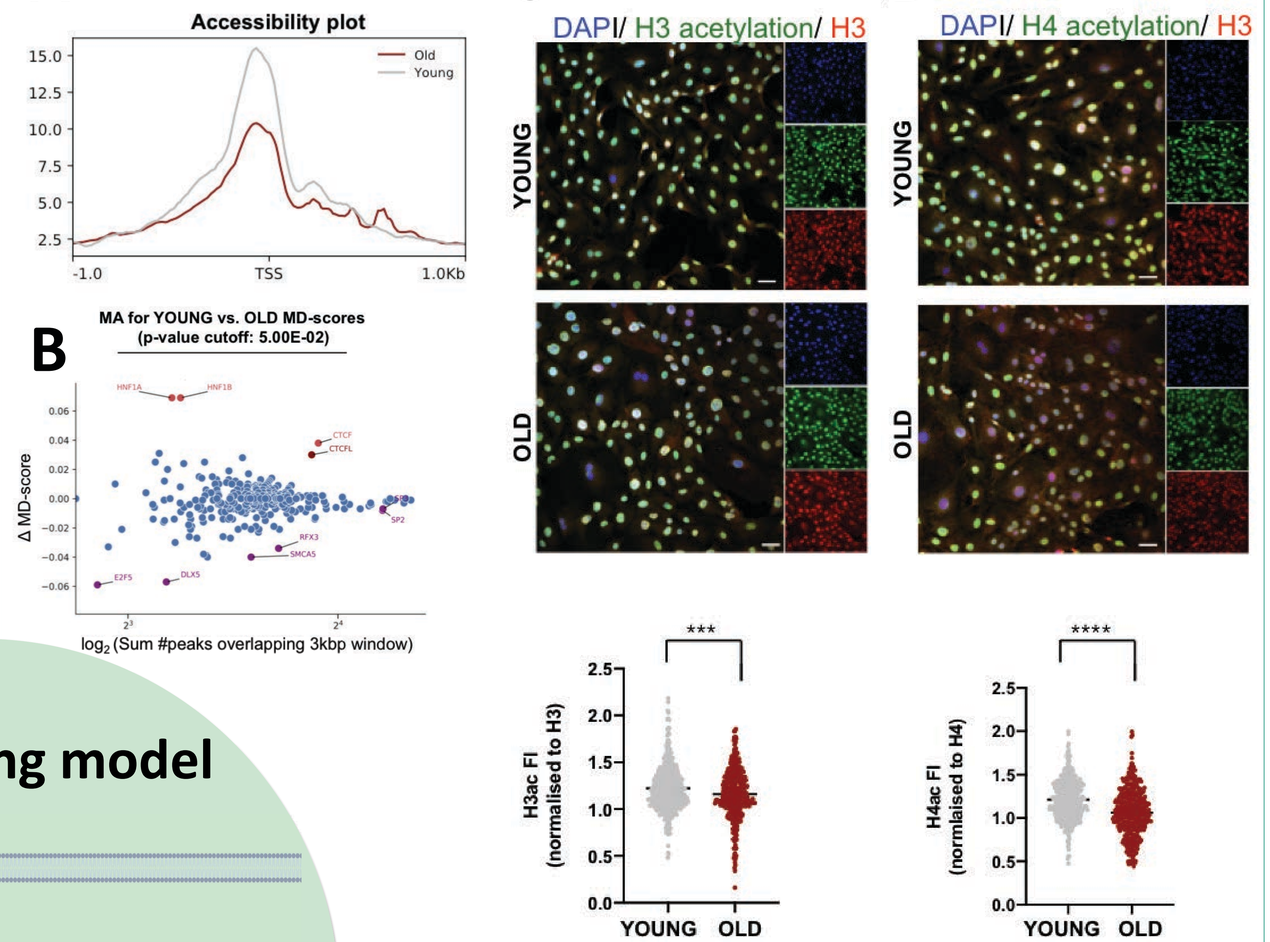
Scientific Aims

- *Identification of ageing-driven changes in stem cell potency*
- *Characterization of the chromatin landscape during ageing*
- *Characterization* of the metabolic profile upon ageing
- Identification of the ***mechanistic target linking metabolic and epigenetic states to stemness upon ageing***

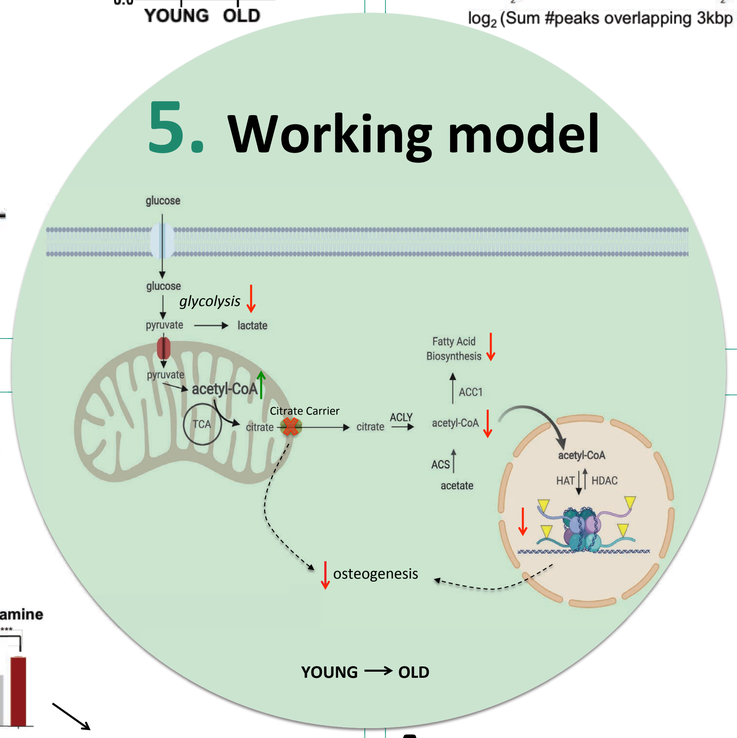
1. Aged MSCs exhibit low proliferation and differentiation capacity



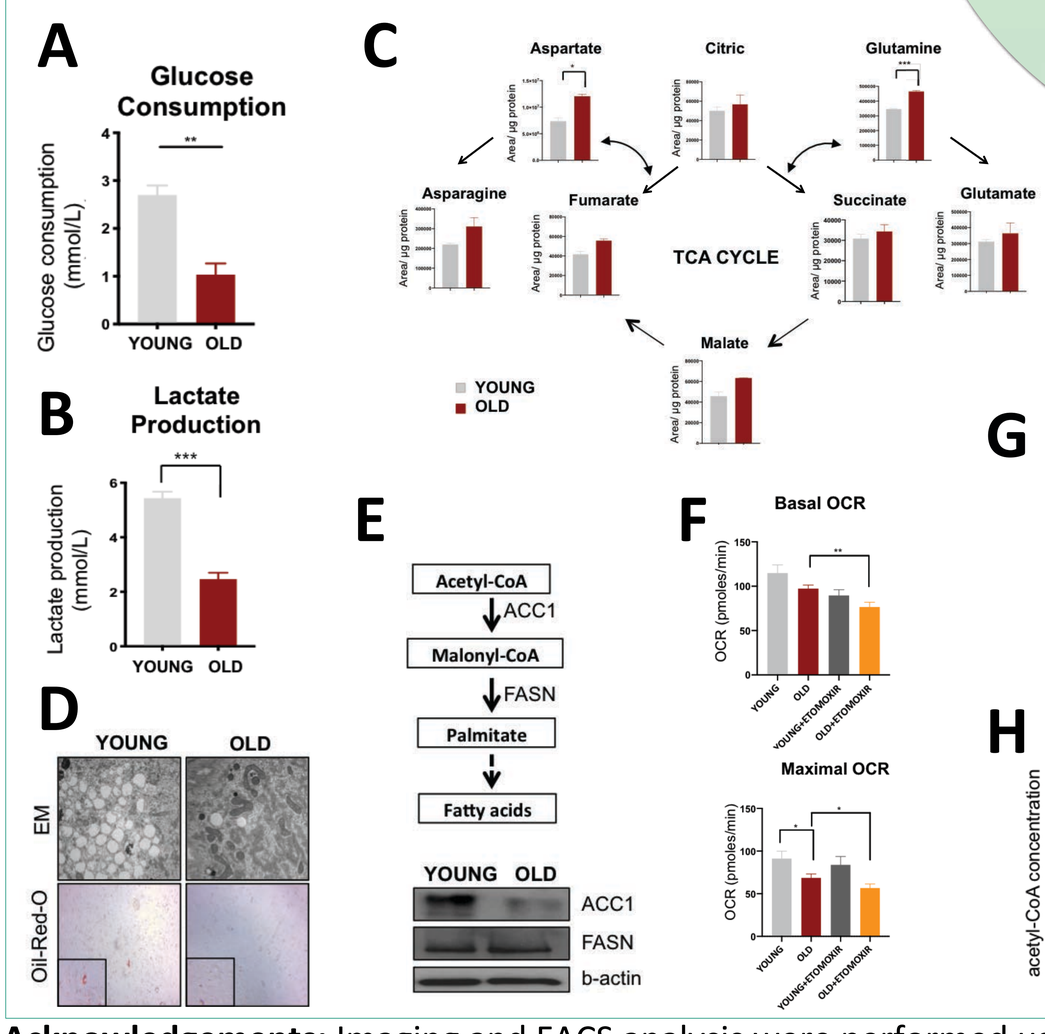
2. Chromatin compaction and histone hypo-acetylation upon ageing



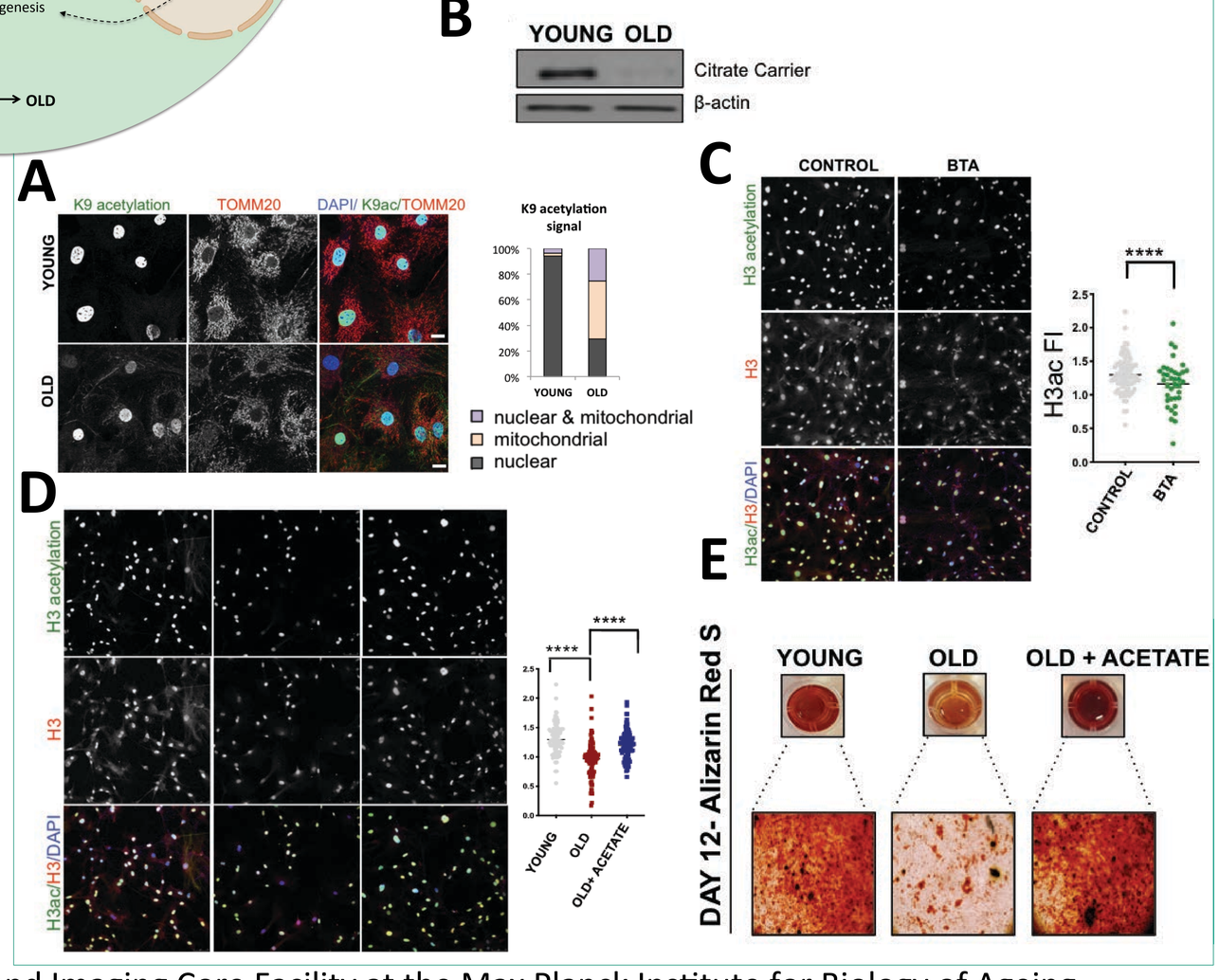
5. Working model



3. Metabolic re-arrangements upon ageing



4. Citrate carrier links metabolism, chromatin and stemness



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