

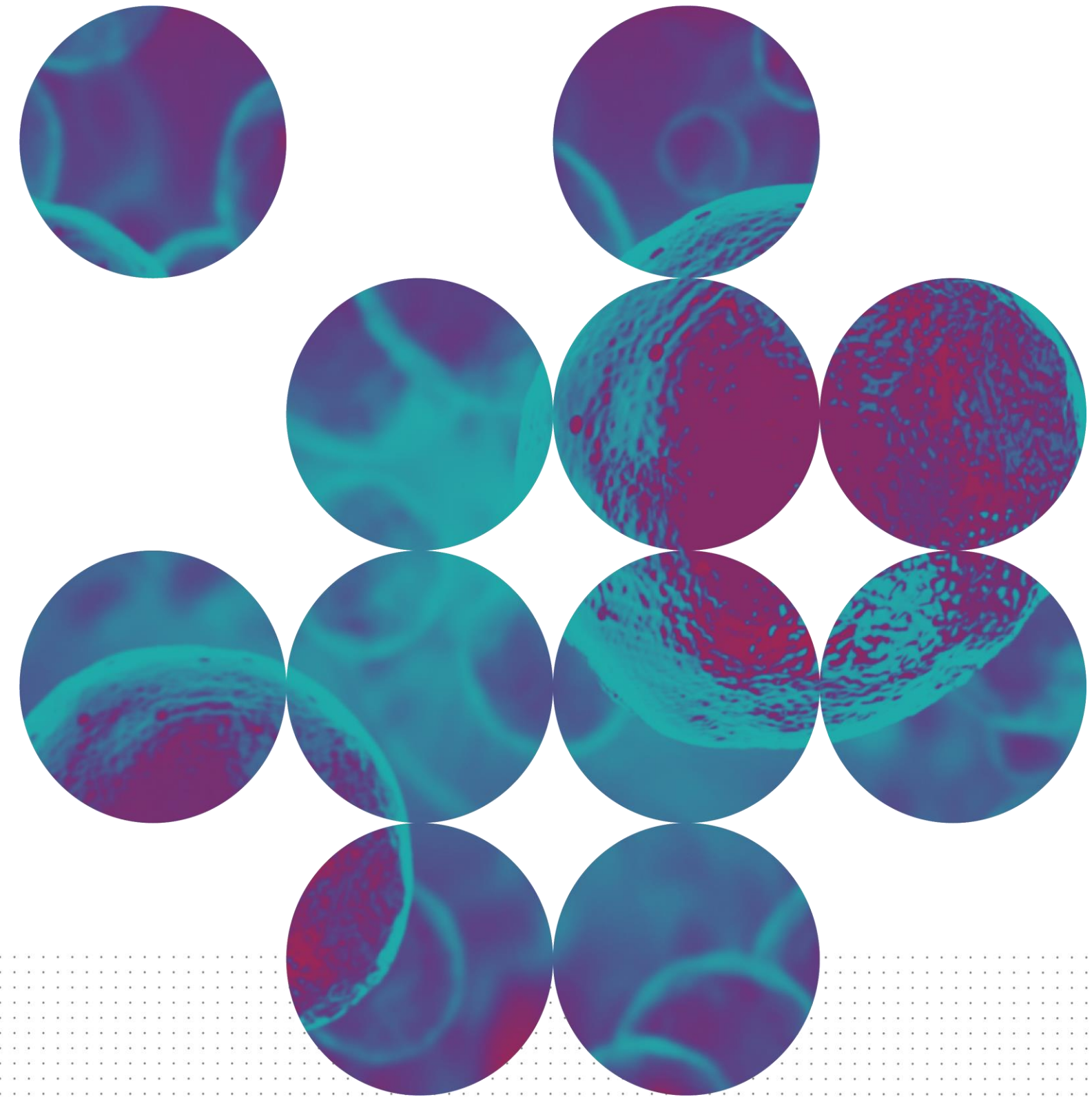


HUMAN CELL DESIGN

Experts in Diabetes Research and Drug Discovery

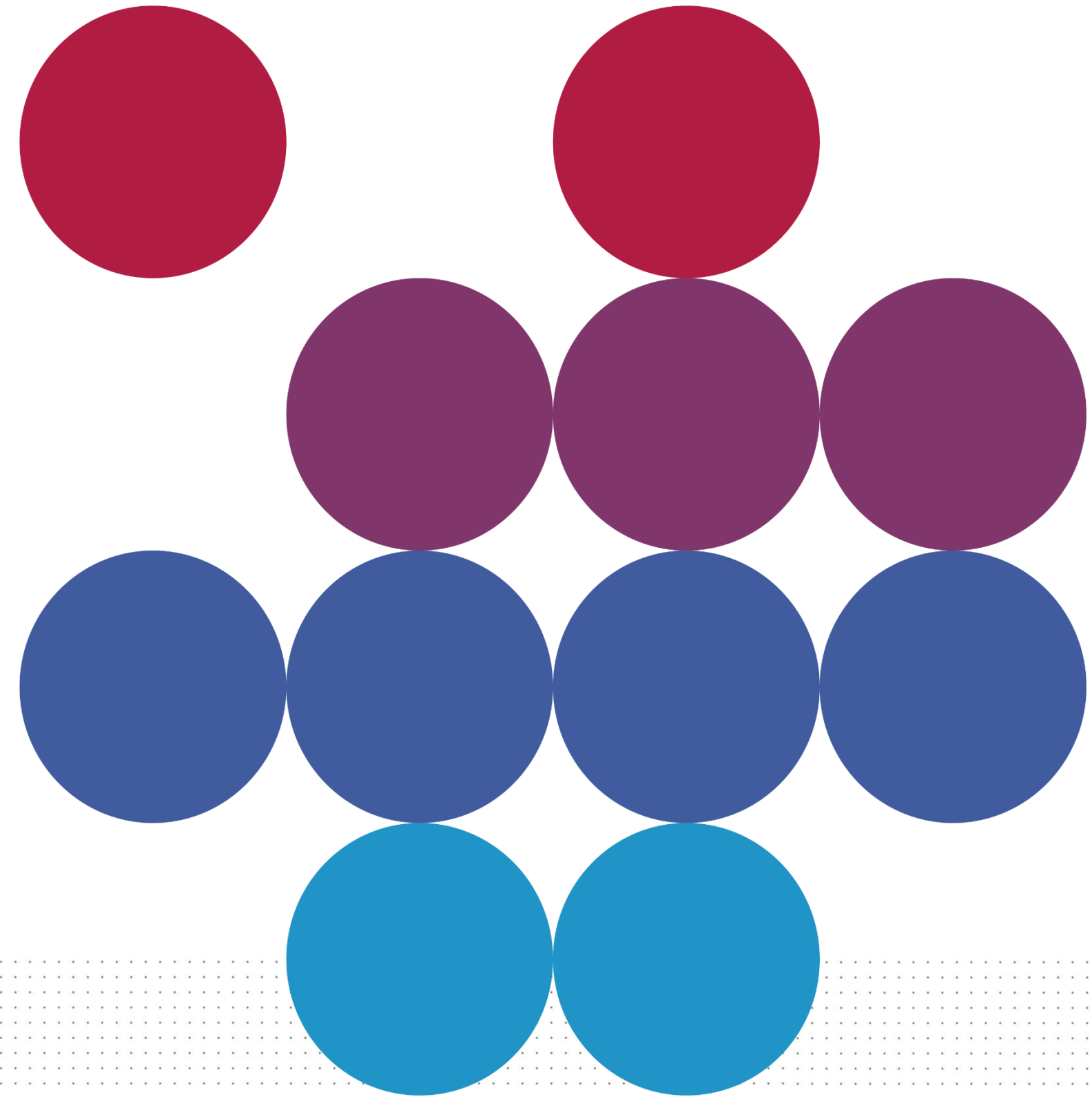
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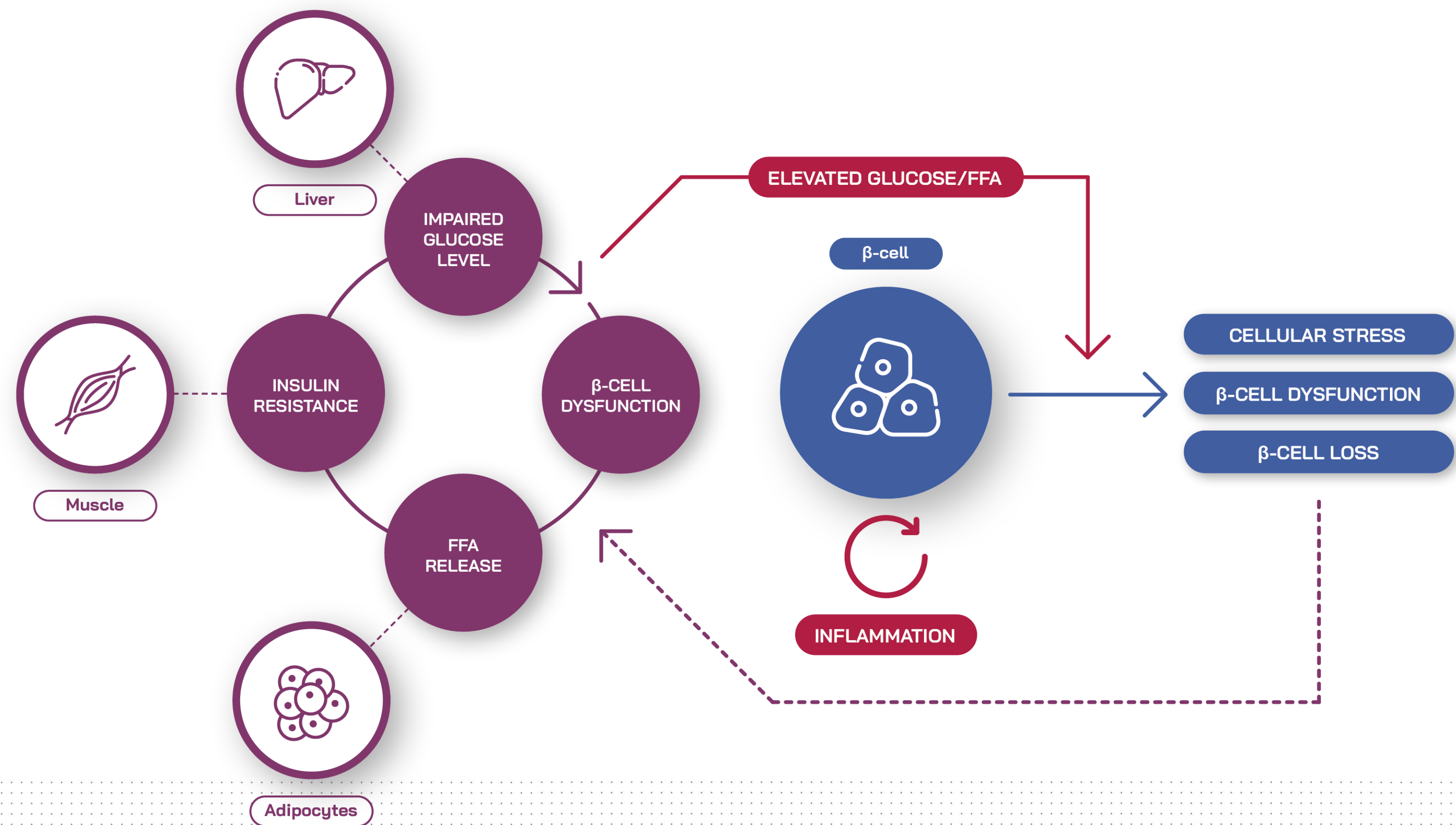


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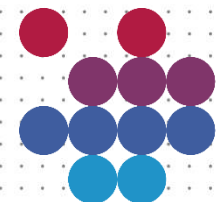
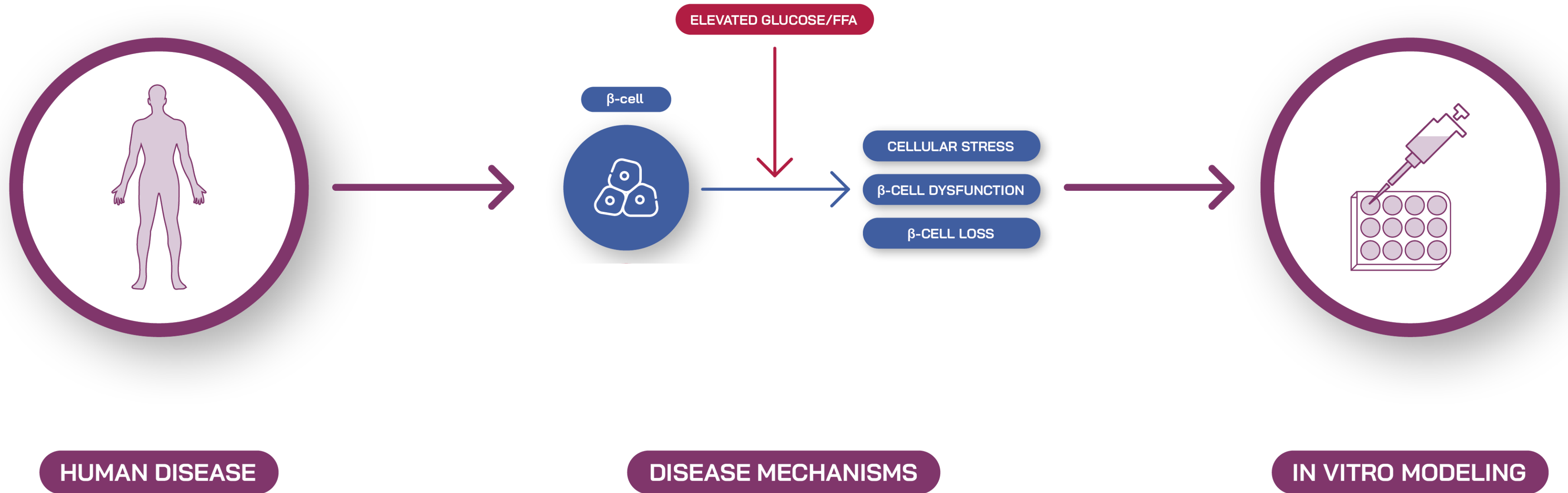
Endoc- β H5: a highly functional human pancreatic beta cell that can model glucolipotoxicity and inflammatory responses



Beta cell impairment is a central component of Type 2 diabetes



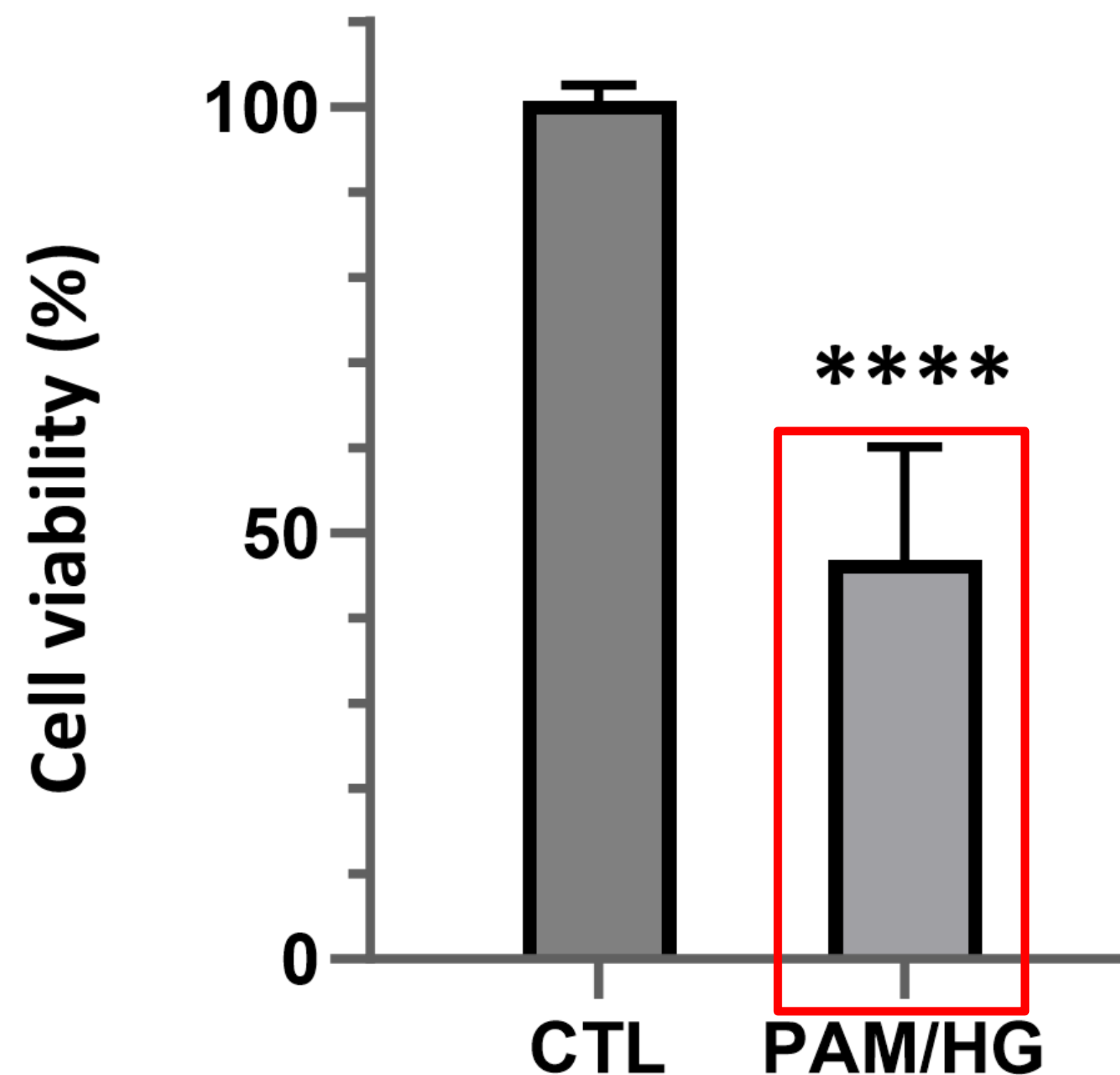
GLTx EndoC- β H5[®] cells are a translational model for human beta cell glucolipotoxicity



HUMAN CELL DESIGN
ACCELERATING DISCOVERY

ENDOC-BH CELLS
Hamza OLLEIK, PharmD, PhD
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GLTx EndoC- β H5[®] cells are sensitive to cytotoxicity induced by palmitate and high glucose

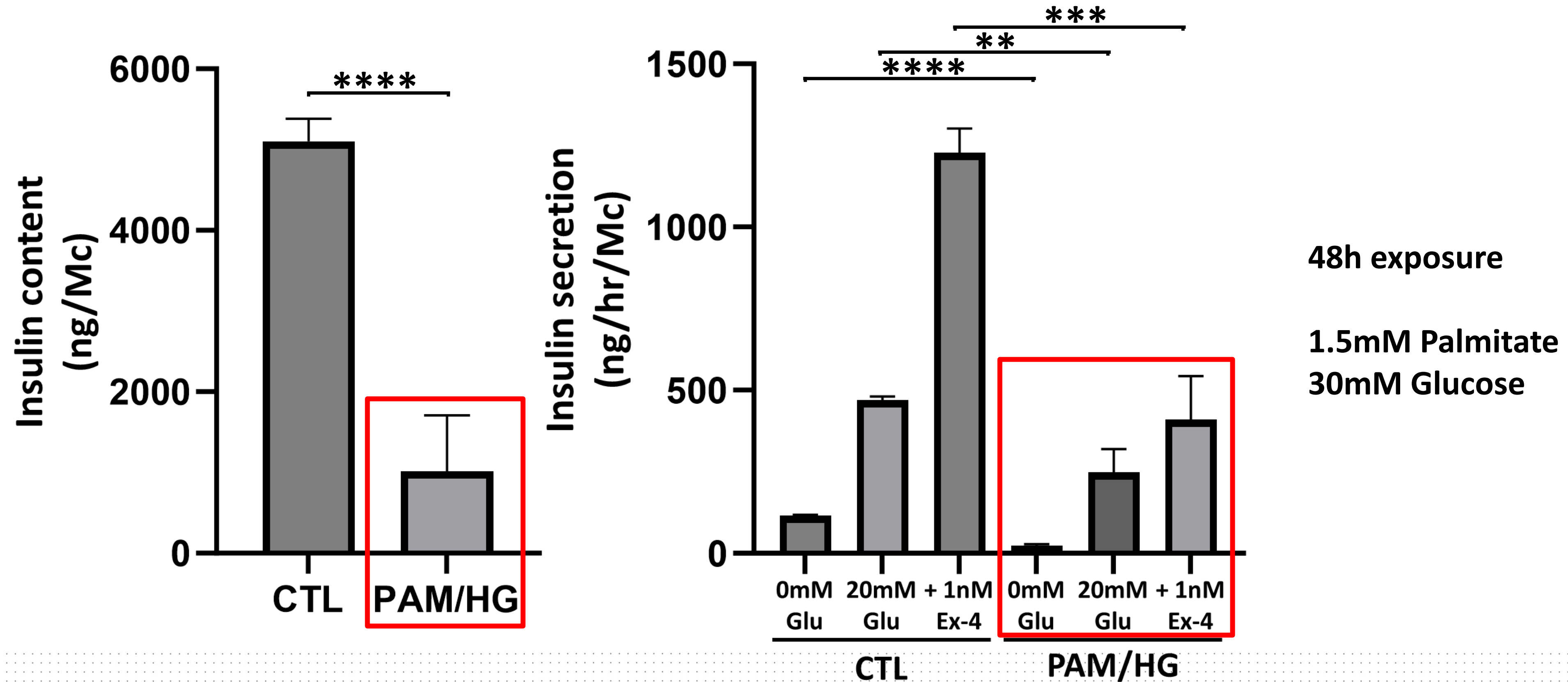


96h exposure

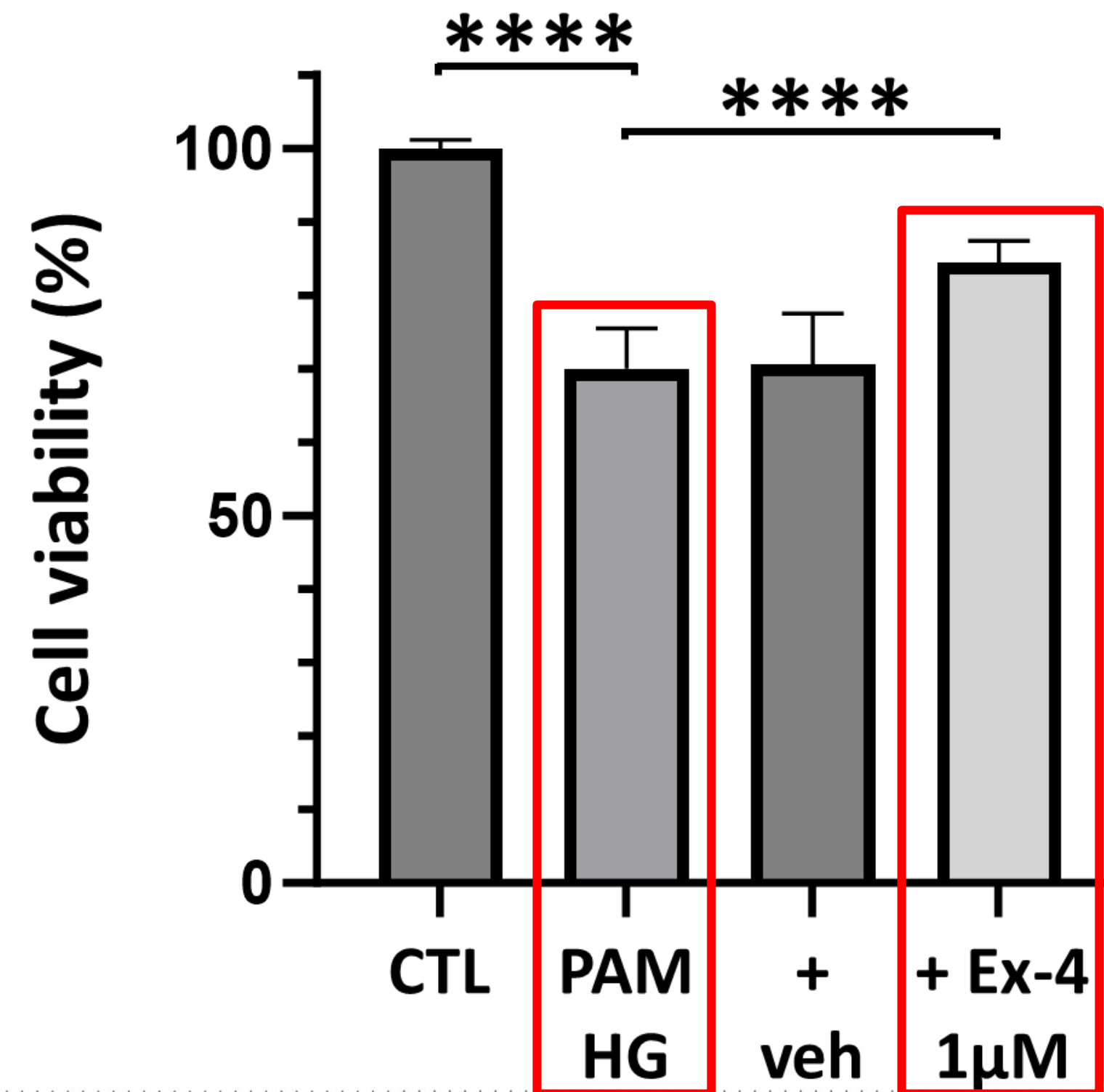
1.5mM Palmitate
30mM Glucose

Cell viability measurement
(Cell Titer Glo, ATP)

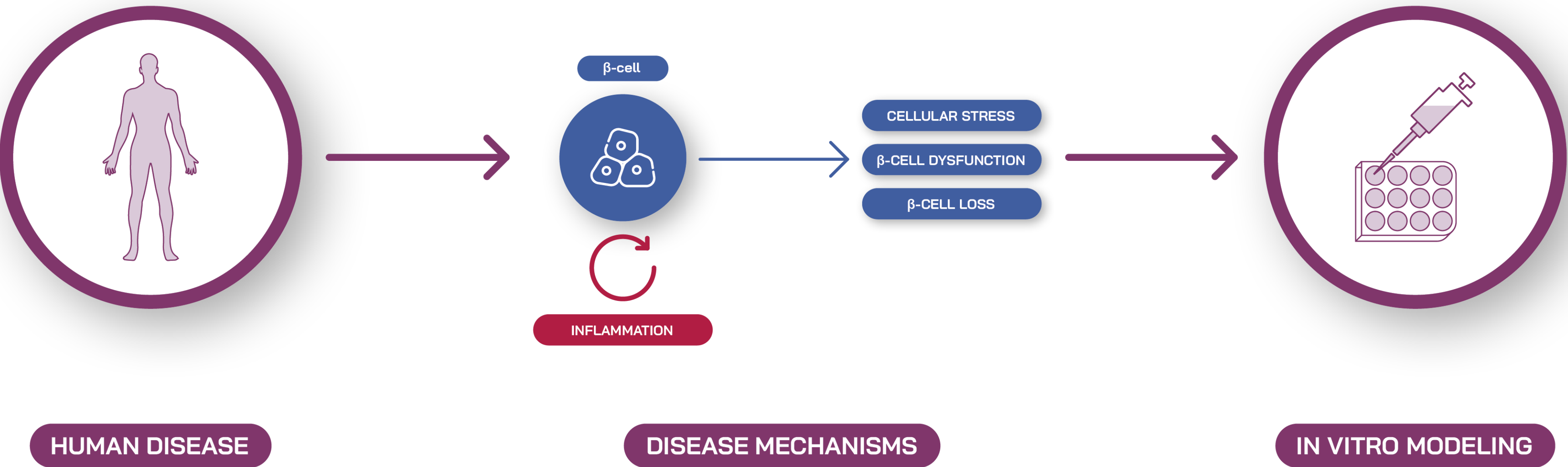
PAM/HG treatment alters insulin content and insulin secretion in GLTx EndoC- β H5[®] cells



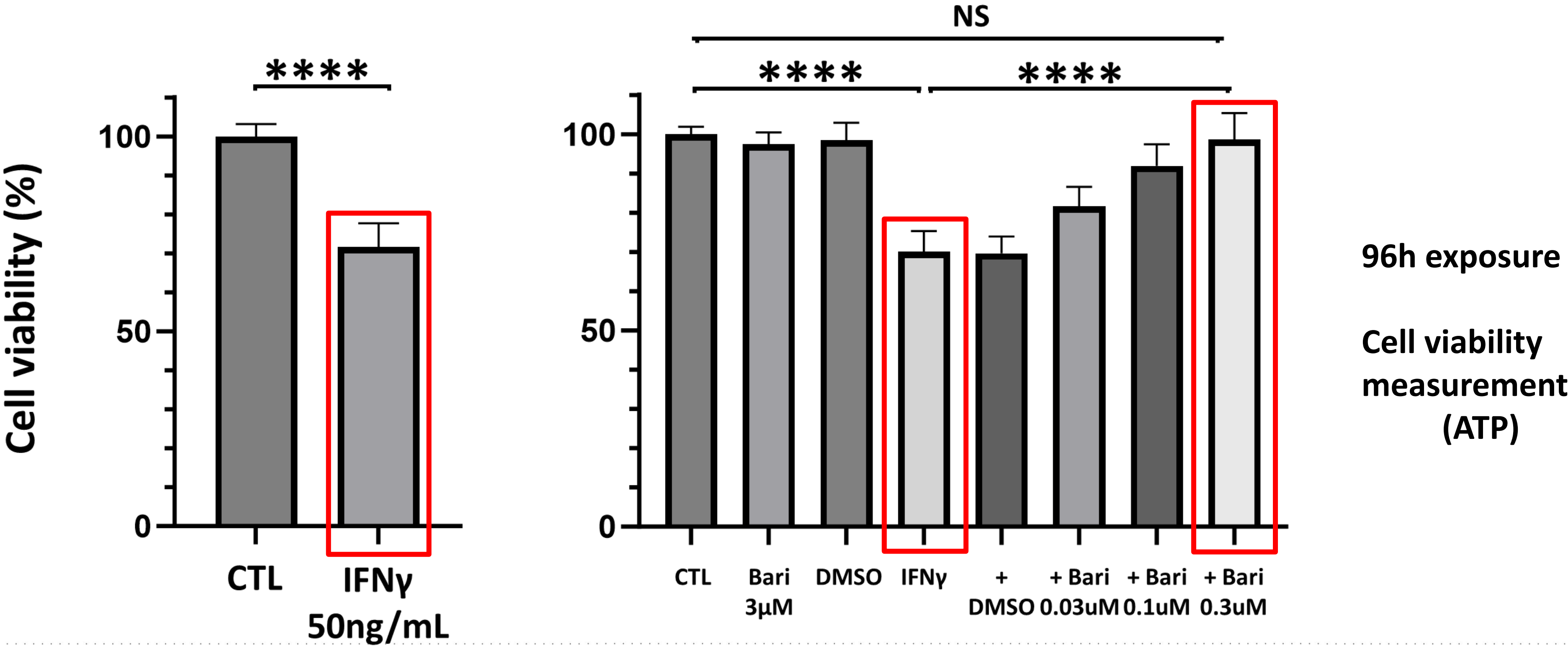
PAM/HG induced cytotoxicity in GLTx EndoC- β H5[®] is partially prevented by GLP-1R signaling



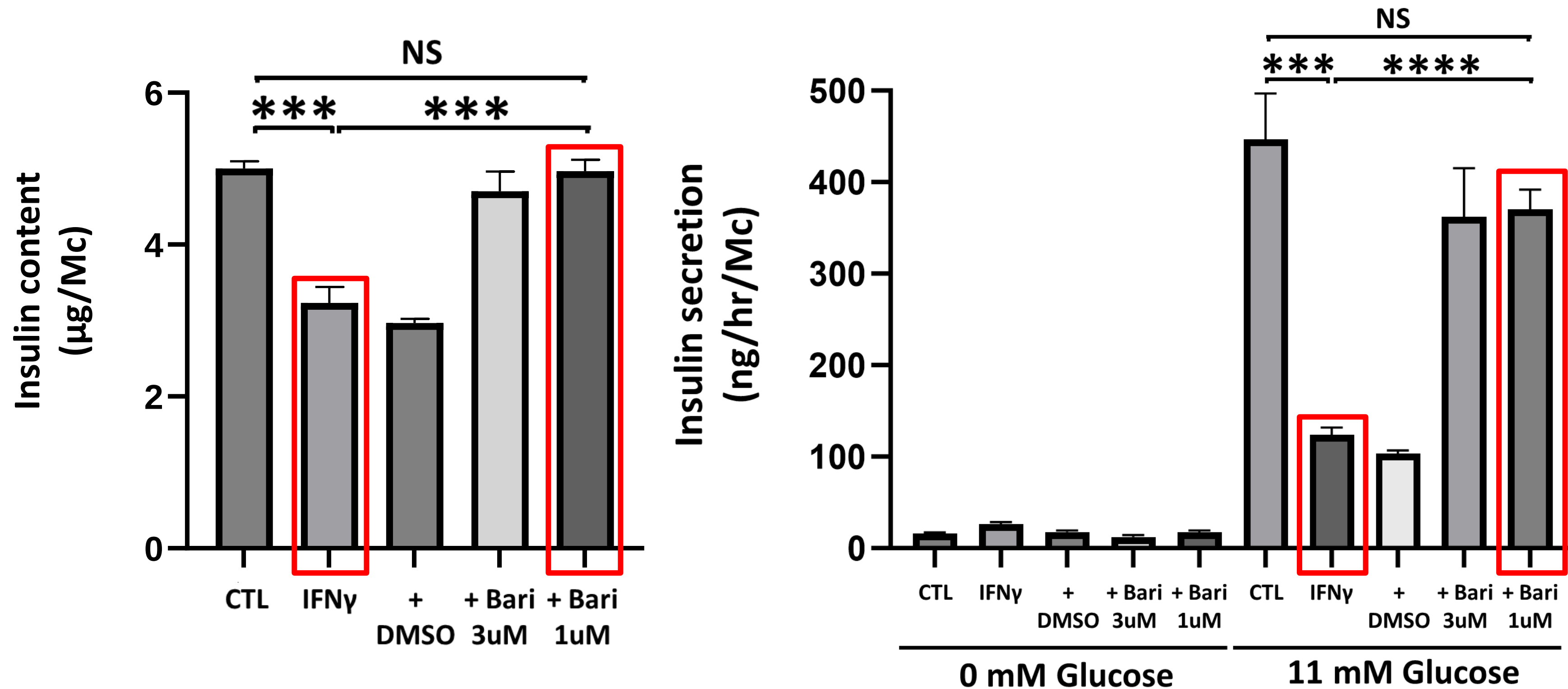
EndoC-βH5[®] cells are translational model for human beta cell cytokine mediated inflammation



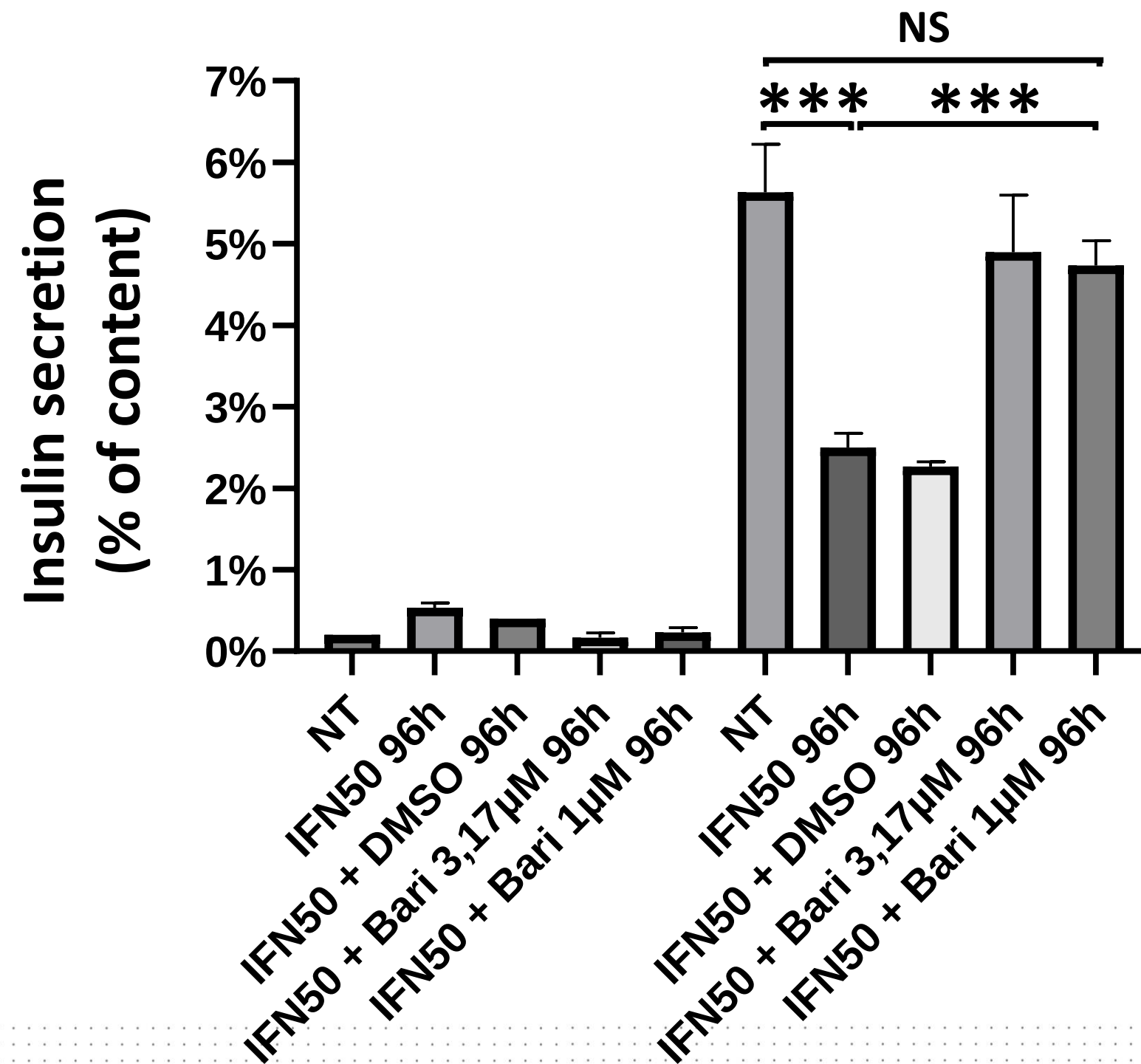
EndoC-βH5[®] cells are sensitive to IFN γ induced cytotoxicity which is prevented by JAK1/2 inhibitor Baricitinib



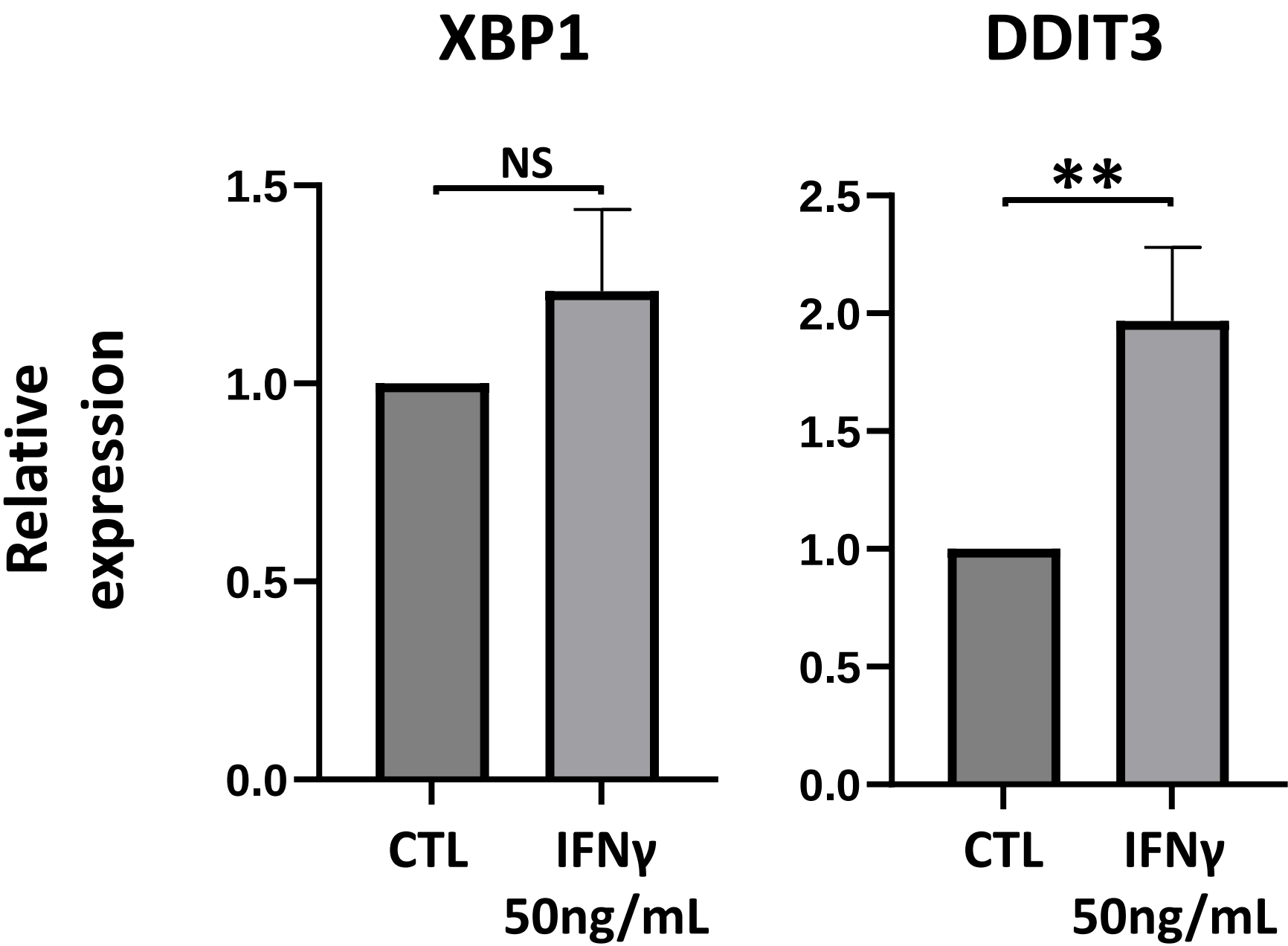
IFN γ treatment in EndoC- β H5[®] cells impairs glucose stimulated insulin secretion which is restored by JAK1/2 inhibitor Baricitinib



Cytokine treatment in EndoC- β H5[®] cells impairs insulin content normalized to content which is prevented by JAK1/2 inhibitor Baricitinib



IFN γ treatment in EndoC- β H5[®] cells induces ER stress genes



Glucolipotoxicity and cytokine mediated inflammation are modeled in GLTx EndoC- β H5[®] and EndoC- β H5[®] cells:

- Robust and reproducible data
- Physiological models
 - impaired beta cell function
 - impaired beta cell survival
- Pharmacological validation
- Flexibility (readily available and storable)
- Large scale
- Validated batch to batch reproducibility



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