Physiogenex
THE METABOLIC DISEASES EXPERTS

# Immune cell characterization in HFD mice: *the low grade inflammation hypothesis evaluated*

✓ Demonstrate your drug benefits on immuno-inflammation
➔ a key contributor to metabolic diseases.

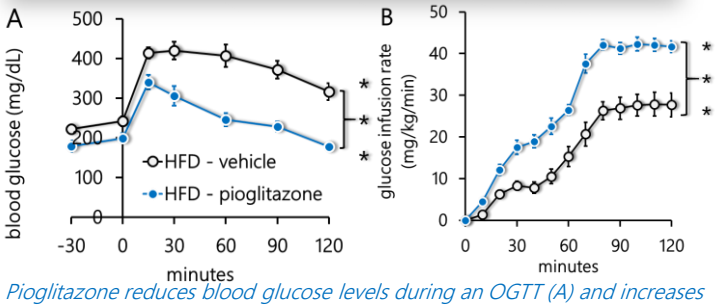
## Key benefits

For the last two decades a growing body of evidences demonstrate the key role of the immune system on low grade inflammation in various tissues leading to metabolic diseases. Importantly, a gut microbiota dysbiosis leads to a leaky gut featured by an impaired intestinal immune defense triggering the low grade inflammation and inducing insulin resistance, body weight gain, hyperglycemia, hepatic steatosis and kidney failure to cite a few. Therefore, characterizing the immune cells in different body compartments **is a must do** in all metabolic studies.
We offer to characterize cells from the immune compartment to demonstrate the benefits of your drug on metabolic diseases.

Combined with our *in vivo* experiments, and using Fluorescence-Activated Cell Sorting (FACS) analyses we validate the efficacy of your treatment

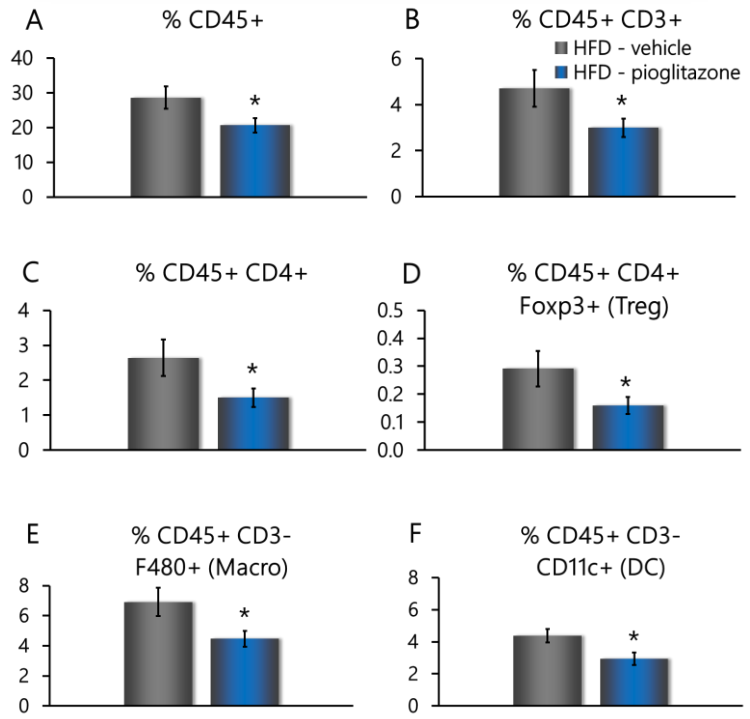
- Through the characterization of a current panel of innate and adaptive immune cells in metabolic tissues (e.g adipose tissue, liver, intestine…)
- simultaneously on both the immune system and metabolic parameters
- On different tailor made animal models (high fat fed-induced insulin resistance, obesity, NASH in mice (suitable to all mouse models)

## PIOGLITAZONE IMPROVES GLUCOSE HOMEOSTASIS IN HFD MICE



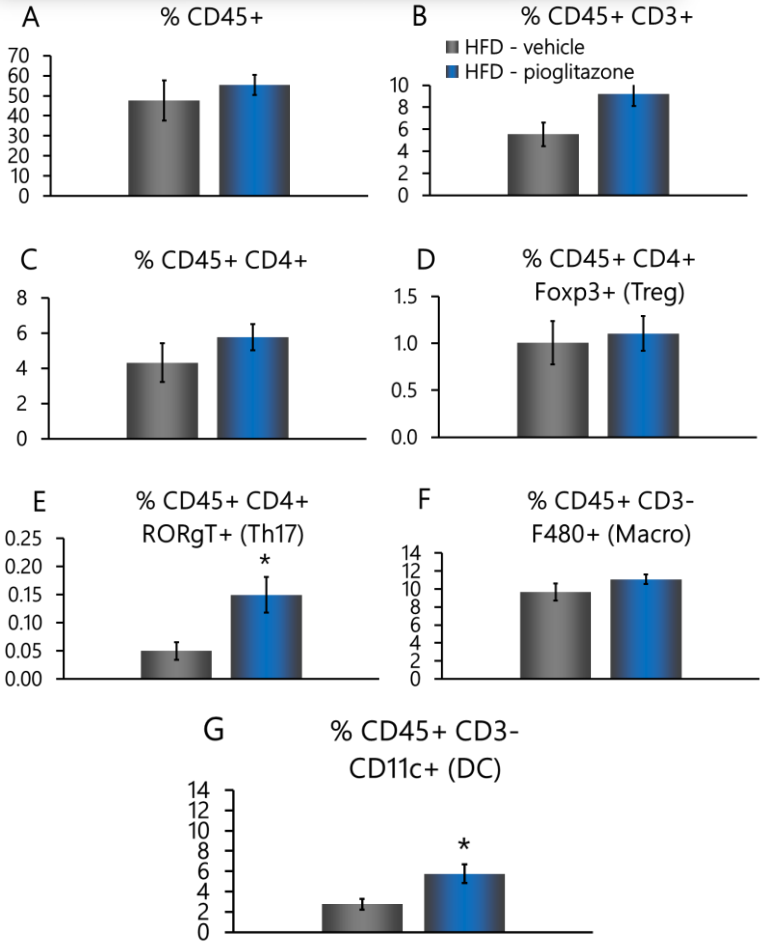

*Pioglitazone reduces blood glucose levels during an OGTT (A) and increases glucose infusion rate (in vivo measure of insulin sensitivity) during a hyperinsulinemic euglycemic clamp (B)*

## PIOGLITAZONE IMPACTS IMMUNE CELLS POPULATION IN MESENTERIC ADIPOSE TISSUE OF HFD MICE




*A: Frequency of hematopoietic cells; B: lymphocytes; C: CD4+ lymphocytes; D: T-Reg CD4+ lymphocytes; E: macrophages; F: Dendritic cells*

## PIOGLITAZONE IMPACTS IMMUNE CELLS POPULATION IN THE INTESTINAL LAMINA PROPRIA




*A: Frequency of hematopoietic cells; B: lymphocytes; C: CD4+ lymphocytes; D: T-Reg CD4+ lymphocytes; E: IL17 producing lymphocytes; F: macrophages; G: Dendritic cells*

*We here offer a tailor made in vivo screening process to validate bioactive strategies on both the causal role of the **low grade inflammation** and its **metabolic impacts**.*

*p<0.05 and ***p<0.001 vs. vehicle

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