

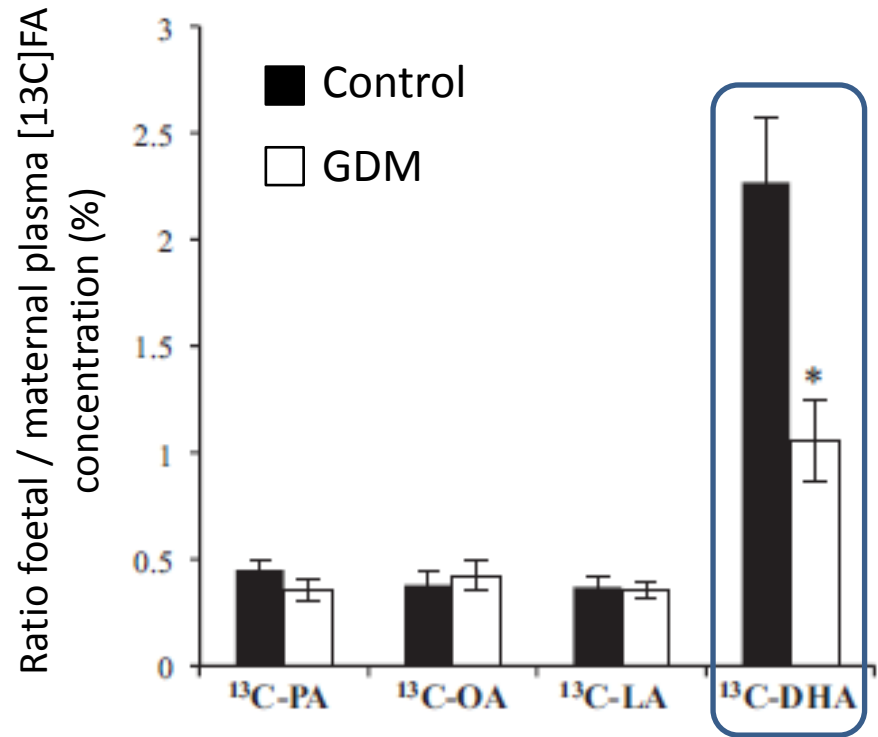
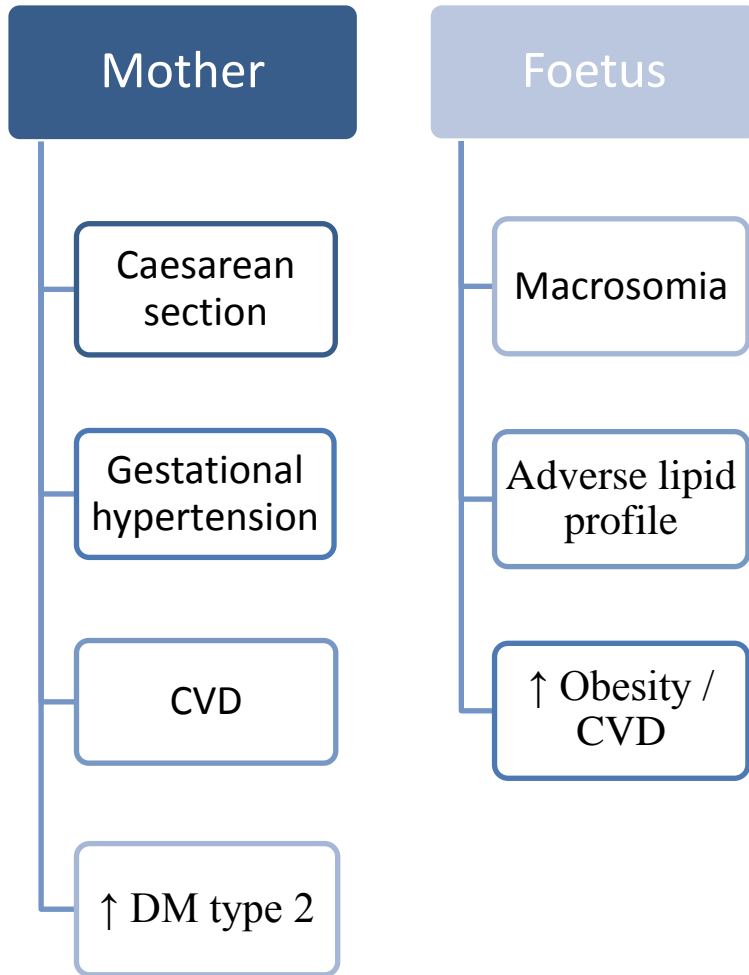
La administración de agonistas de la adiponectina mejora la glucemia en ratas diabéticas gestantes y en su descendencia, pero no el perfil lipídico

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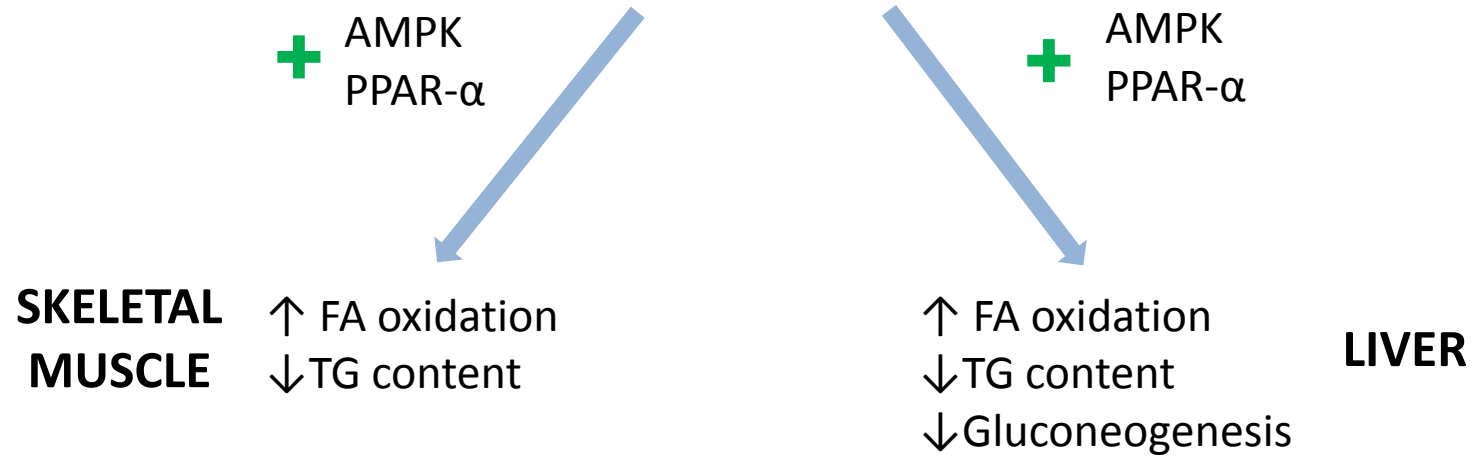
Gestational Diabetes Mellitus (GDM)



Pagán *et al.* Am J Physiol Endocrinol Metab 2013

Need of new treatments
against GDM

Adiponectin



↑ insulin sensitivity / ↑ lipid metabolism regulation

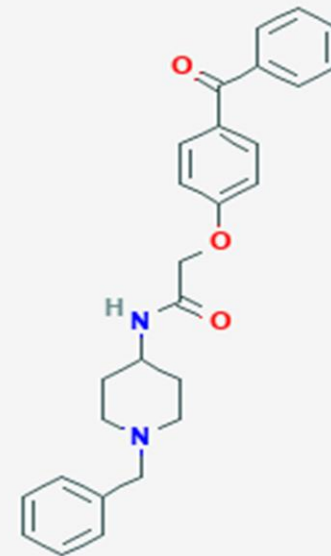
Utilization of adiponectin as a new therapeutic target for insulin resistance and lipid profile in GDM pregnancies?

Aim

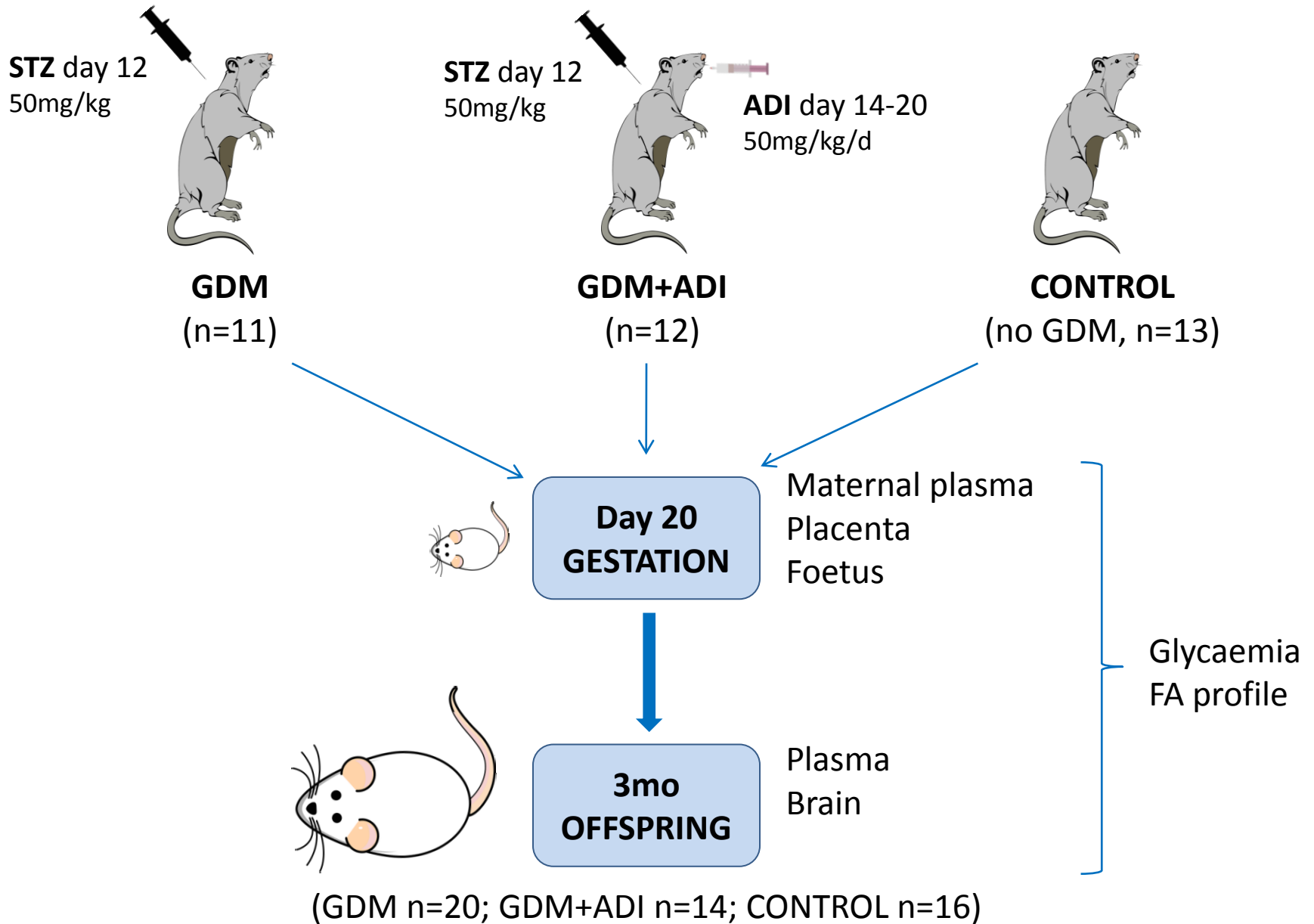
To evaluate the effects of the administration of a novel adiponectin receptor agonist during pregnancy in diabetic rats on the long-term consequences on glycaemia and fatty acids profile in their offspring.

AdipoRon

2-(4-benzoylphenoxy)-N-(1-benzylpiperidin-4-yl)acetamide

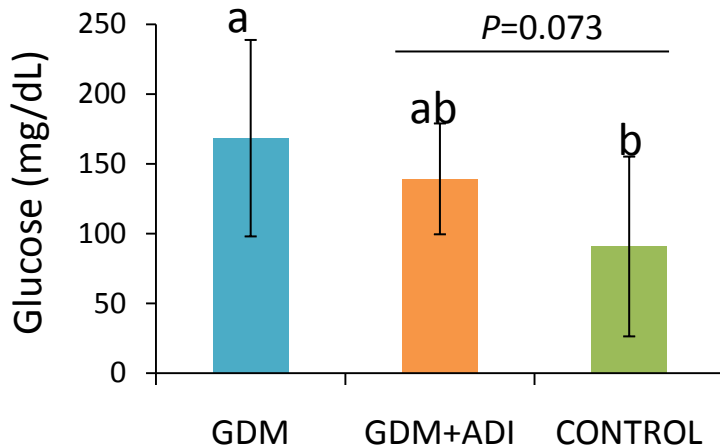


Study design



Results and discussion

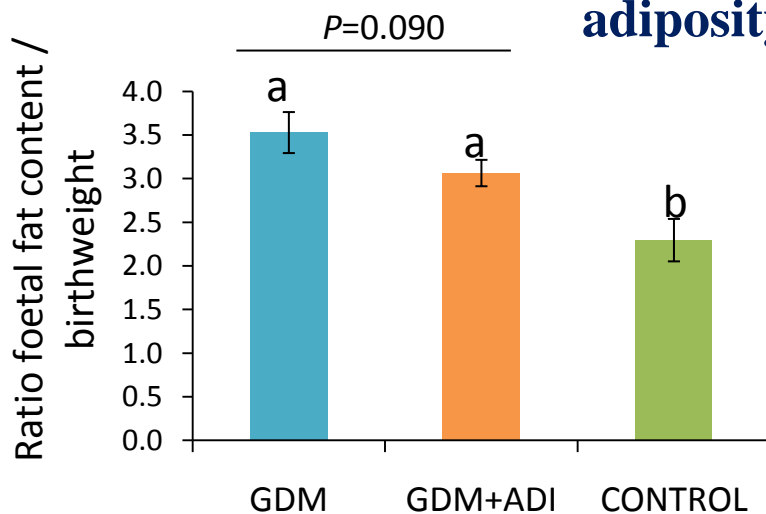
Maternal glucose



Modest glycaemic reduction in mothers supplemented with ADI.

Similar lipid profile and other biochemical parameters in mothers.

Foetal adiposity



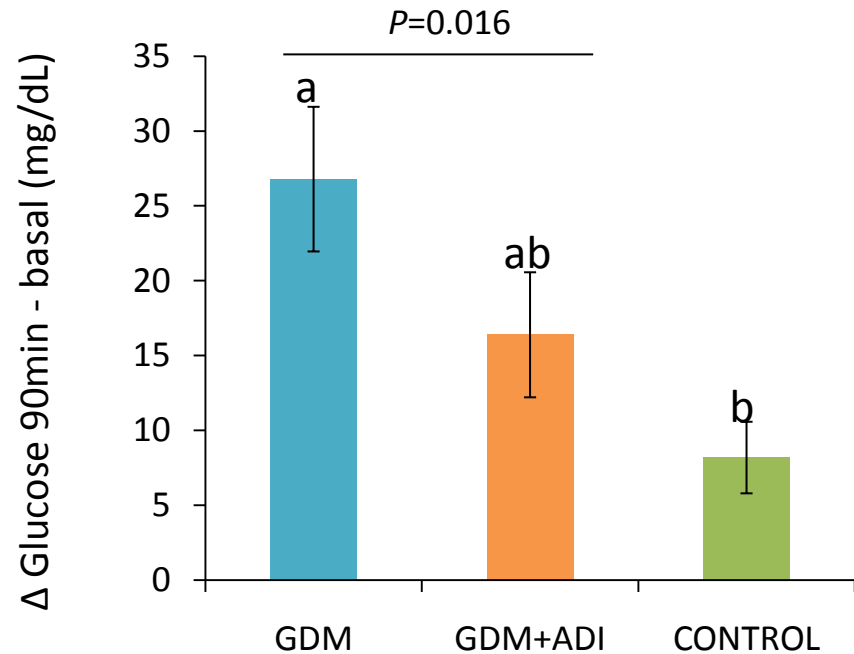
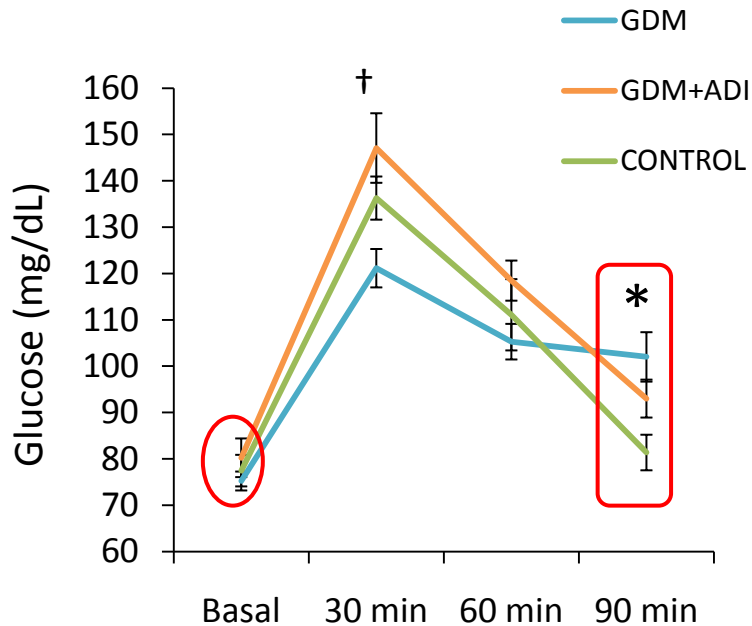
Increased foetal adiposity with GDM.

ADI tended to reduce foetal adiposity compared to GDM group.

Similar lipid profile in total foetus.

Results and discussion

Adult offspring - Glycaemia after an oral glucose overload



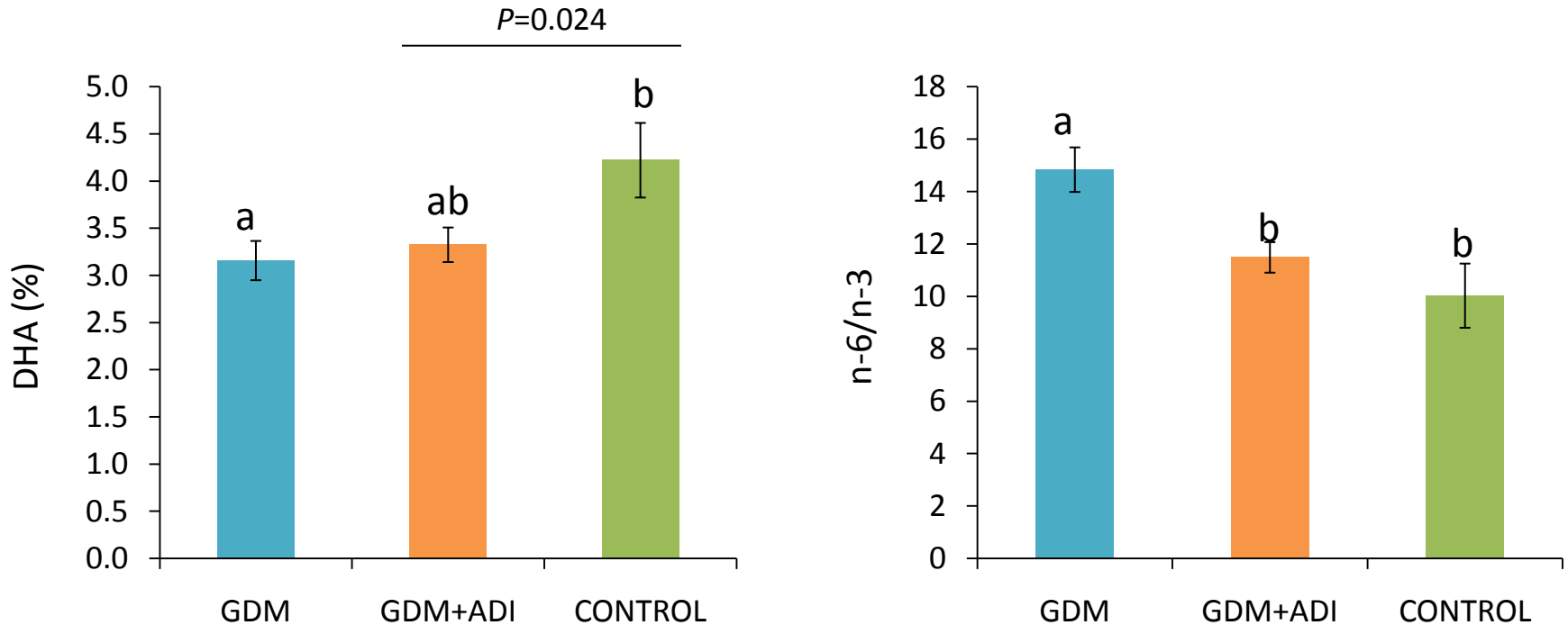
† GDM – GDM+ADI ($P < 0.05$)

* GDM - CONTROL ($P < 0.05$)

Regulatory effect of maternal adiponectin treatment on glycaemia in the adult offspring.

Results and discussion

Adult offspring – Plasma fatty acids profile

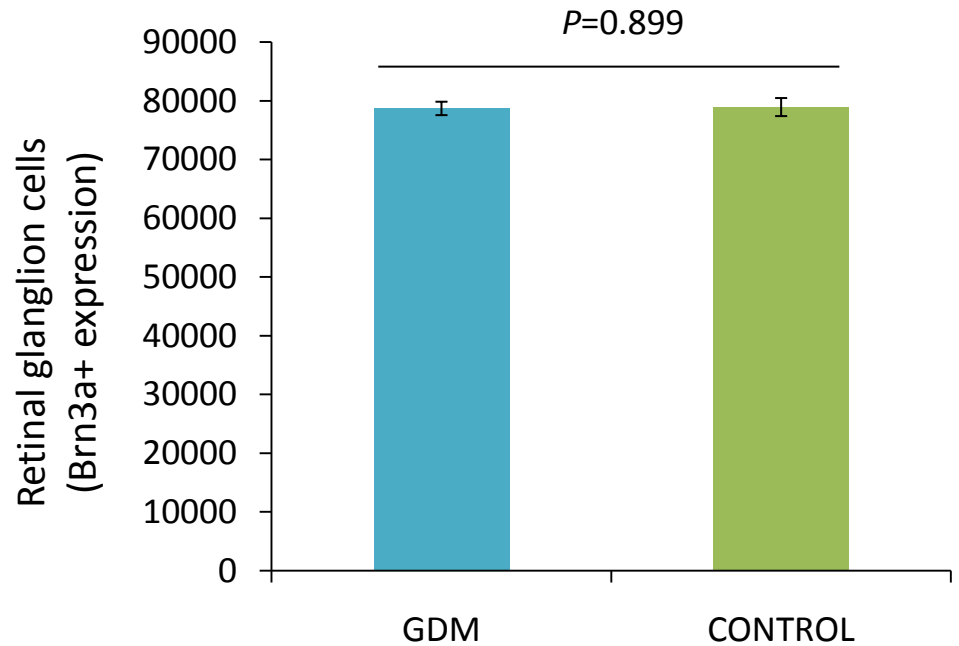
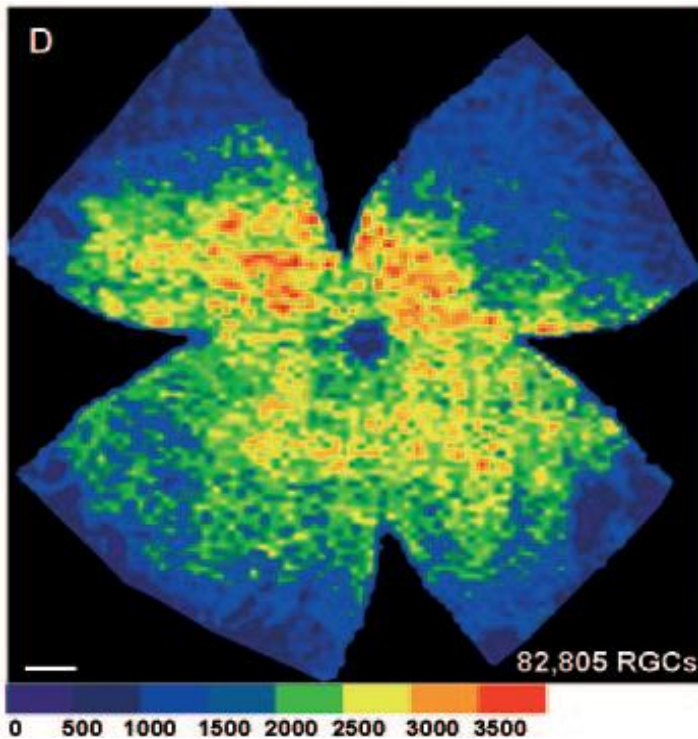


Plasma n-3 fatty acids/DHA strongly reduced by GDM.
Adiponectin agonist improved n-6/n-3 ratio.
No DHA differences in brain.

Results and discussion

Adult offspring – Neurodevelopment assessment approach

Retinal ganglion cells



Conclusions

Adiponectin agonist treatment during pregnancy improves glycaemia in both mothers and adult offspring.

GDM produces foetus with higher adiposity, which tended to be ameliorated by adiponectin agonist treatment.

Adiponectin agonist does not improve plasma DHA percentage in the offspring of diabetic rats at long-term.

Adiponectin seems to be a promising treatment of GDM although more studies are needed to better understand its long-term health consequences in the offspring.

Acknowledgements

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**THANK YOU VERY MUCH FOR
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