



TNF- α AND ADIPONECTIN PATHWAYS ARE DEREGULATED IN ENDOMETRIA FROM OBESE WOMEN WITH POLYCYSTIC OVARIAN SYNDROME (PCOS)

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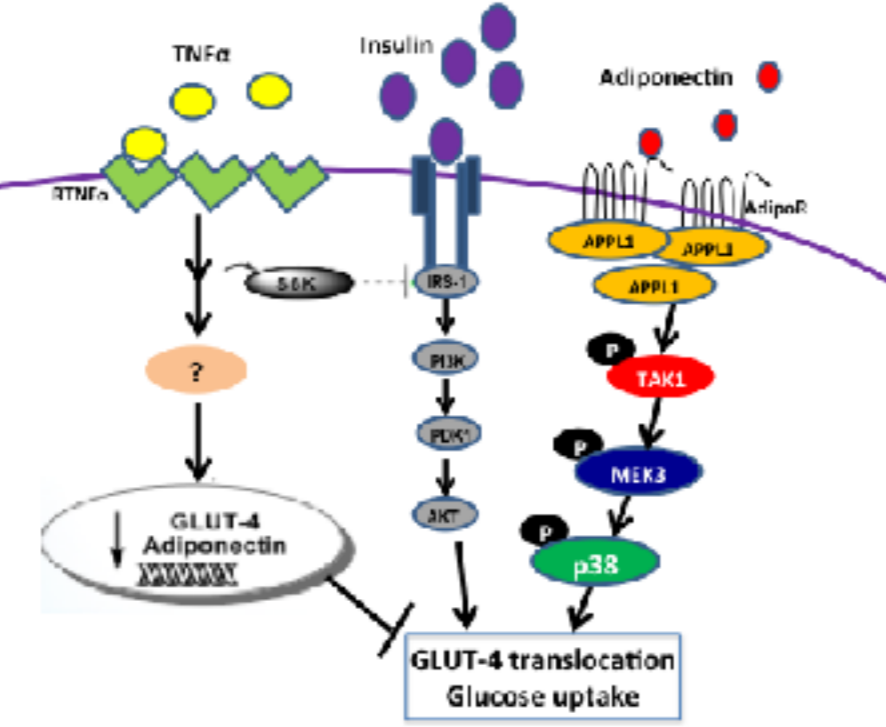
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OBJECTIVES

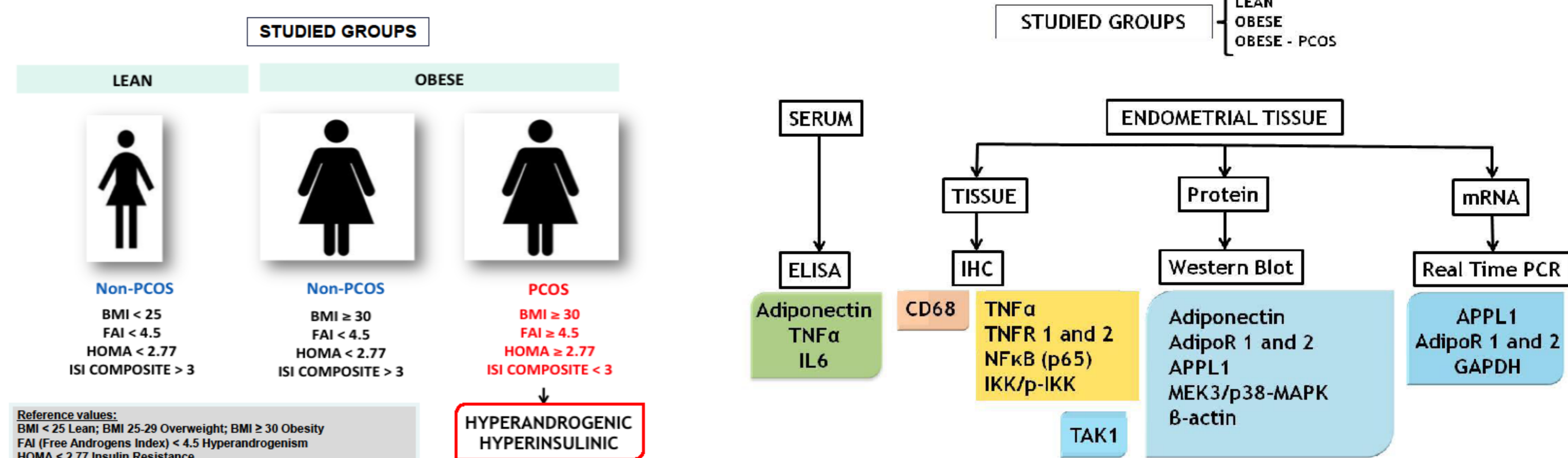
Seventy percent of women bearing PCOS are obese¹; Adiponectin and TNF α , as obesity markers, have a dual role in the sensitivity and action of insulin². Adiponectin (insulin sensitizing) decreases, whereas, TNF α , IL6 (negative regulators of insulin pathway) increases in obese-women³. Moreover, TNF α decreases the transcript and protein levels of Adiponectin⁴. These changes could affect the normal energetic status of the endometrium, tissue that exhibits abnormal insulin signalling in the PCOS condition (hyperandrogenic / hyperinsulinic environment)⁵⁻⁸. **The aim of this work was to evaluate whether both hyperandrogenemia and hyperinsulinemia conditions affect TNF α and Adiponectin signalling pathways in endometrium.** For this, it was determined:

- Plasma levels of Adiponectin, TNF α and IL6
- Number of macrophages by CD68 detection (pro-inflammatory environment)
- Molecules involved in TNF α signalling
- Molecules involved in Adiponectin signalling

In: Endometria and Serum from Lean, Obese and Obese-PCOS women



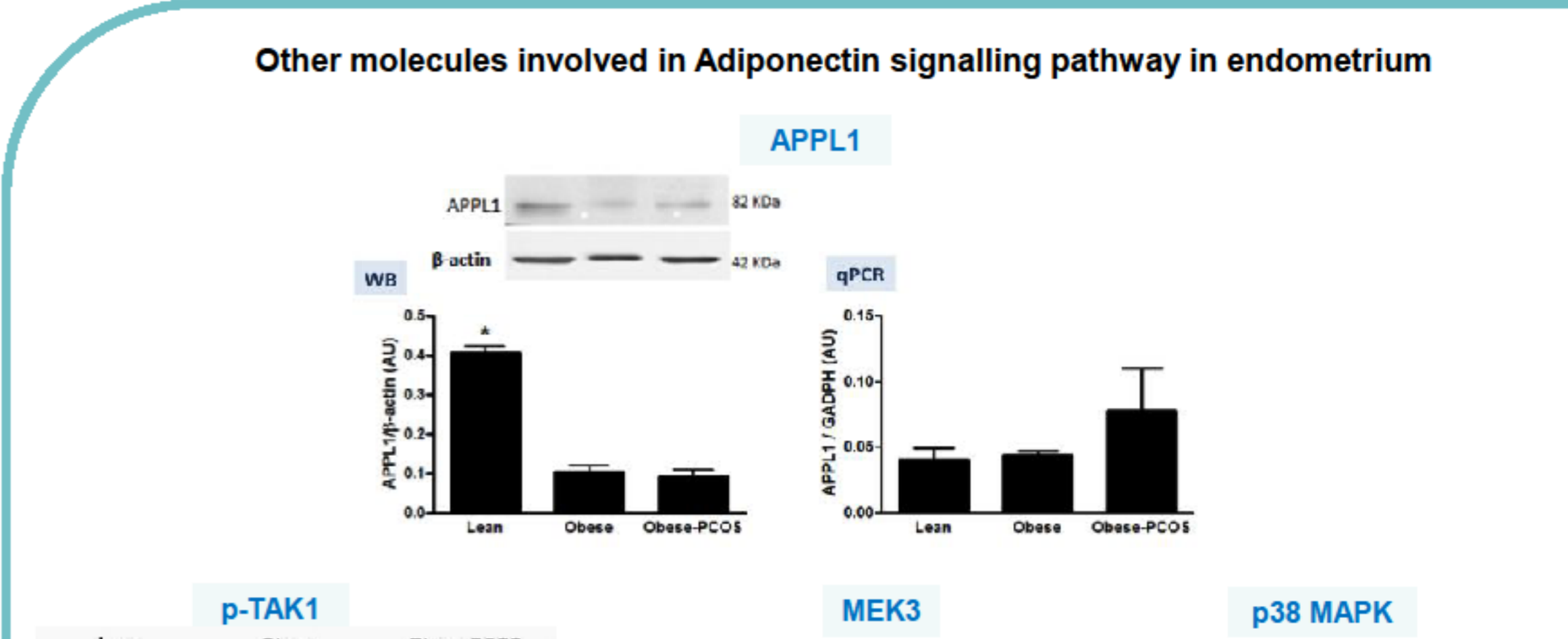
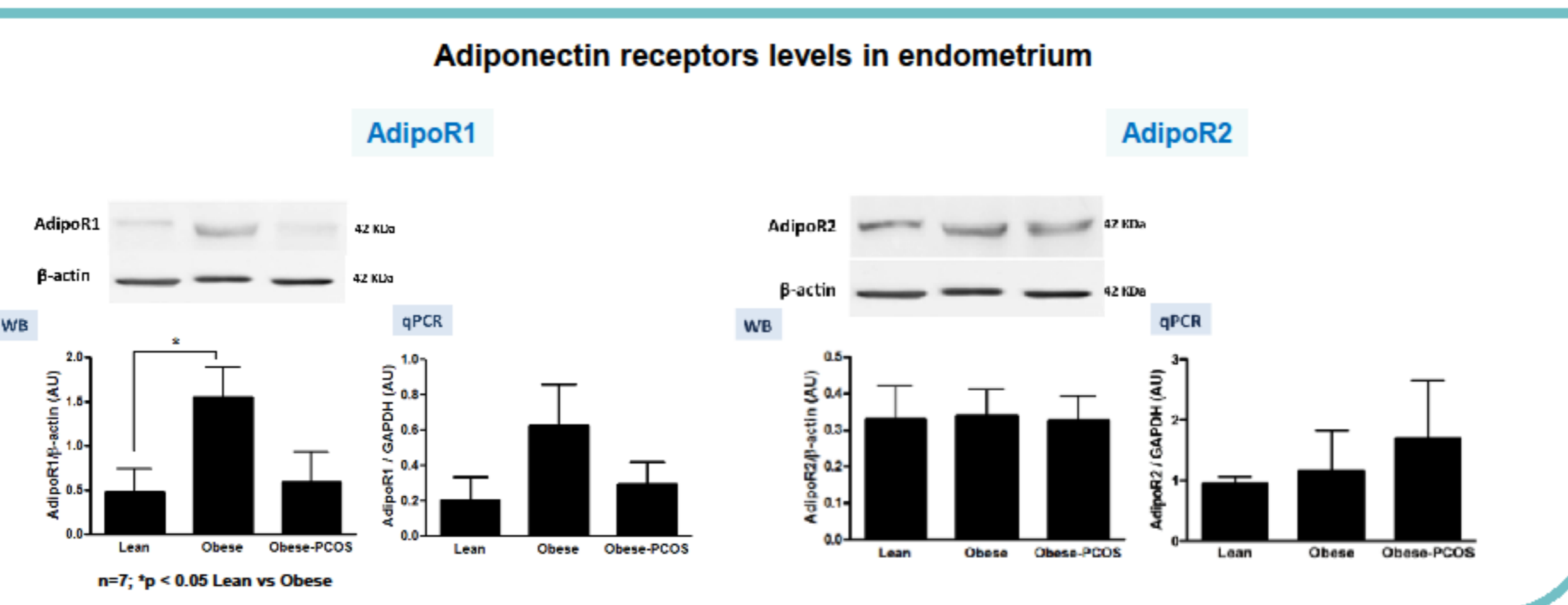
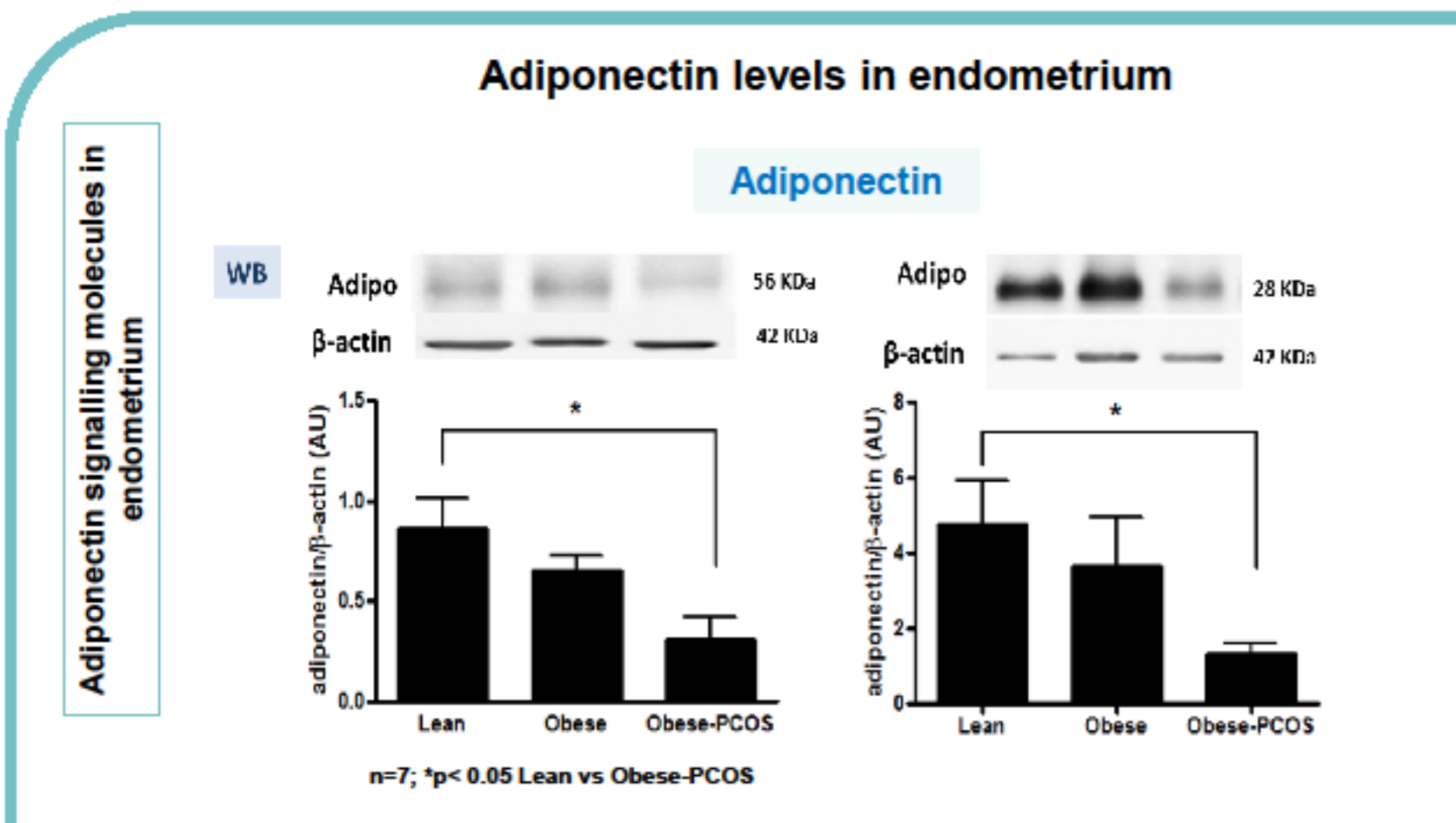
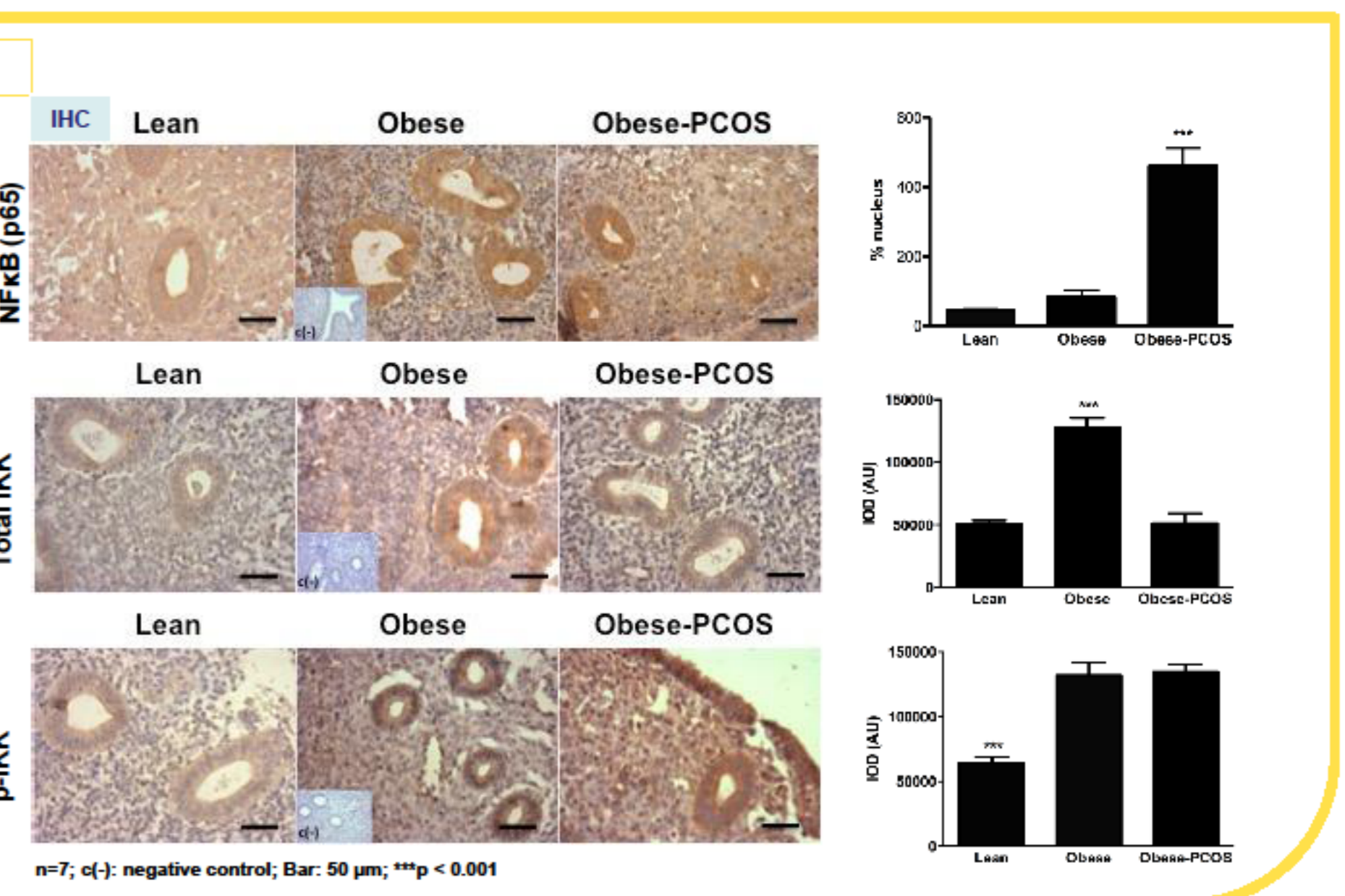
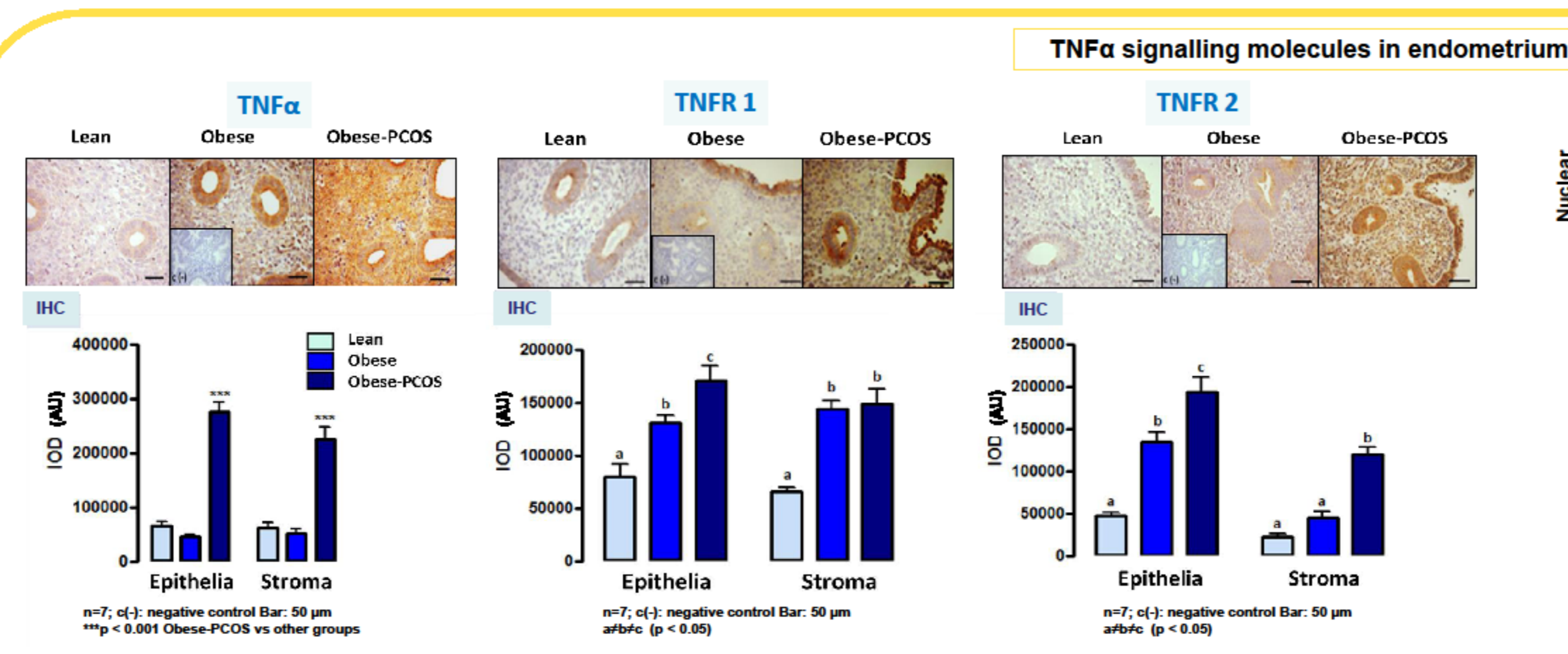
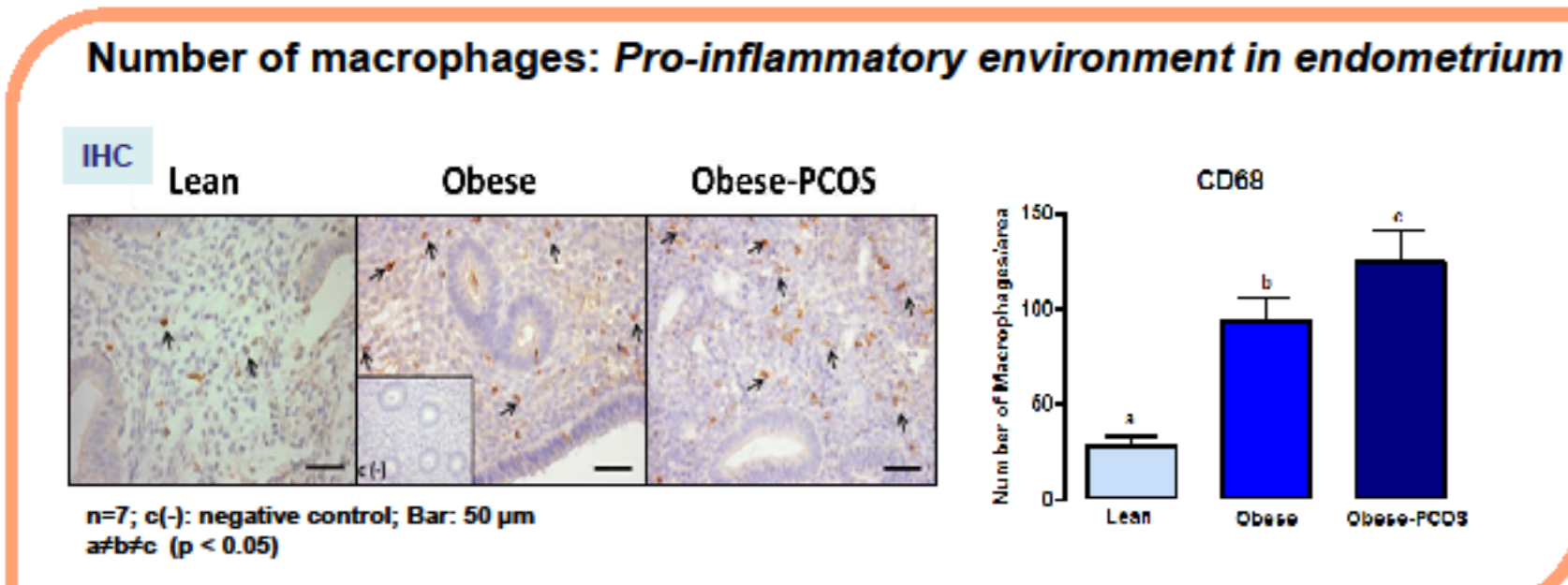
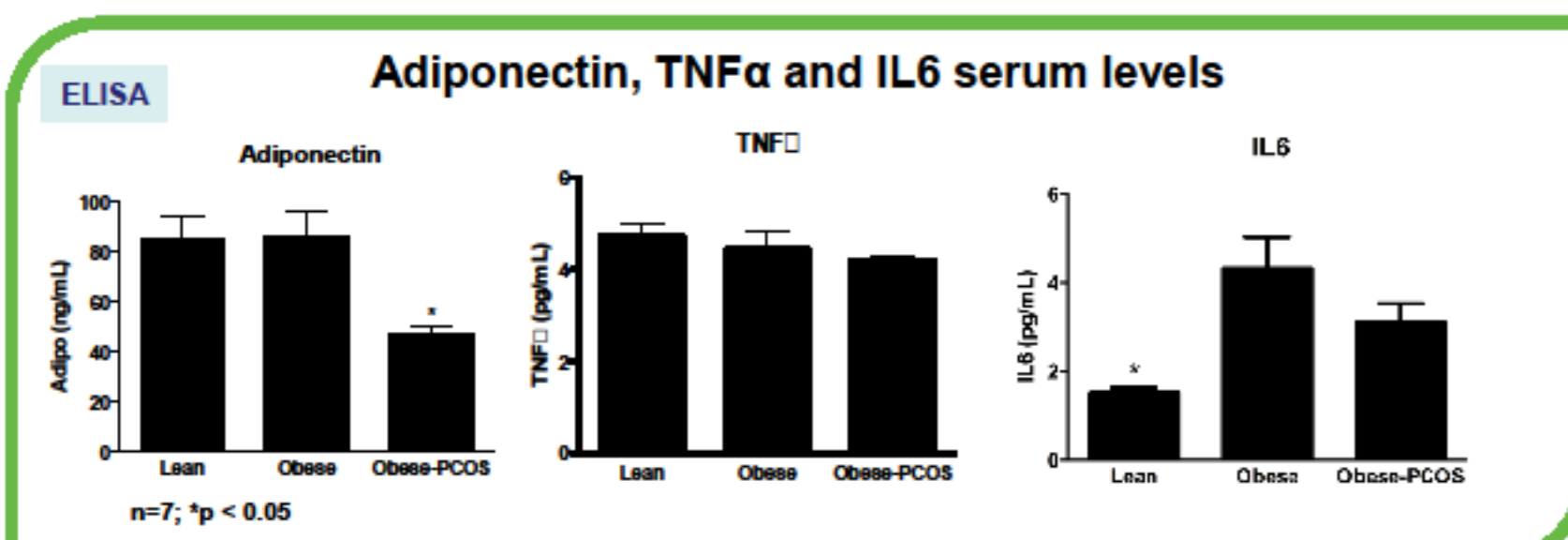
METHODS



N= 21 (7 samples for each group)
Patients approved the study by signing an informed consent. The study was approved by ethics committees: University of Chile Clinical Hospital and Faculty of Medicine, University of Chile

Statistics analysis: Results were analyzed by Mann-Whitney test for comparisons between groups. For multiple comparisons, ANOVA non-parametric: Kruskal-Wallis statistical test followed by Dunn's post-test were used. Different letters indicate significant differences (a \neq b \neq c with p<0.05). Statistical tests were performed using Graph Pad Prism 5.

RESULTS



CONCLUSIONS

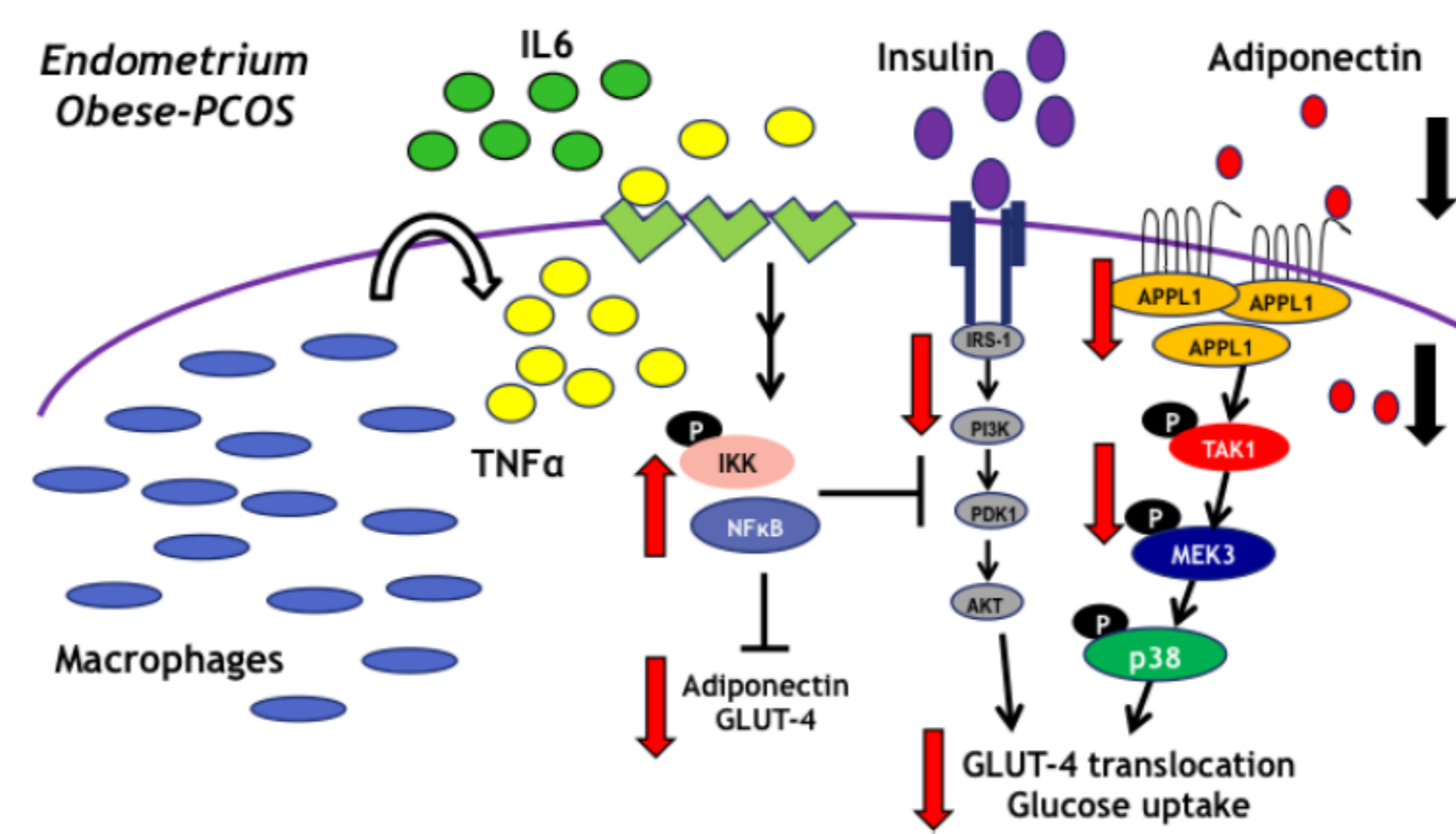
IN SUMMARY...

In obese women with PCOS:

- Circulating levels of IL6 are higher
- Serum and endometrial Adiponectin levels are lower
- The pro-inflammatory environment is higher in endometrium
- Molecules levels of TNF α signalling pathway are increased in endometrium, whereas, Adiponectin signalling molecules are decreased

THEREFORE...

An increased inflammatory environment in endometrium of Obese-PCOS women was observed. This could decrease Adiponectin signalling through the participation of TNF α , NF κ B and/or IL-6, affecting insulin signalling under obesity, hyperandrogenic and hyperinsulinic conditions. Thus, in these conditions the energetic metabolism for normal endometrial function could be compromised.



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