HUMAN CHORIONIC GONADOTROPIN SUPPORTS TREG-MEDIATED FETAL PROTECTION IN MICE BY MODULATING DC PHENOTYPE

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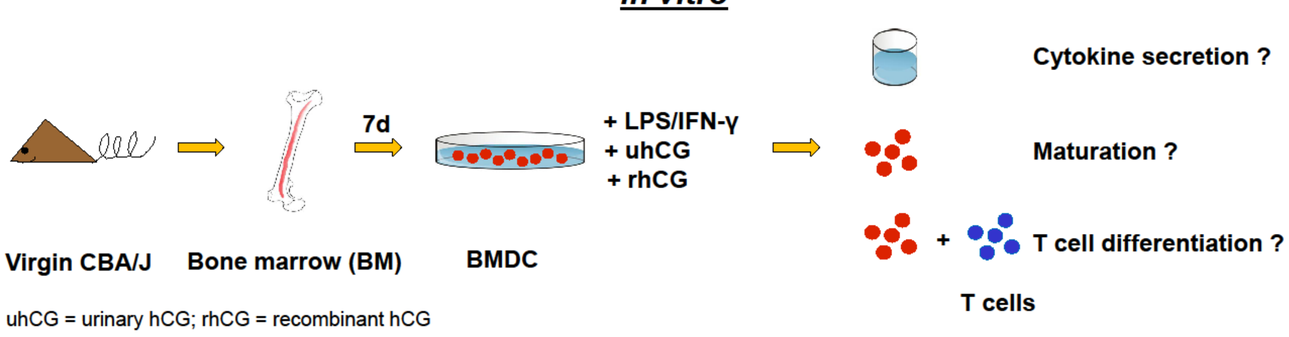
Introduction

Human Chorionic Gonadotropin (hCG) contributes to fetal tolerance by regulating innate and adaptive immune responses during pregnancy. Our previous results suggested a pregnancy protective effect of hCG through enhancement of regulatory T (Treg) cells and inhibition of dendritic cell (DC) maturation. Here, we aimed to investigate whether hCG contributes to Treg generation by modulating DC phenotype *in vitro* and *in vivo* in a murine model.

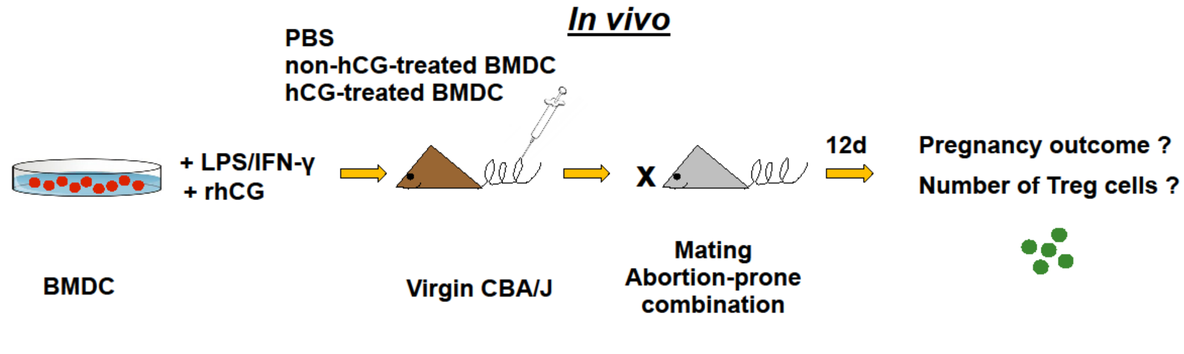
Material and Methods

In vitro



uhCG = urinary hCG; rhCG = recombinant hCG

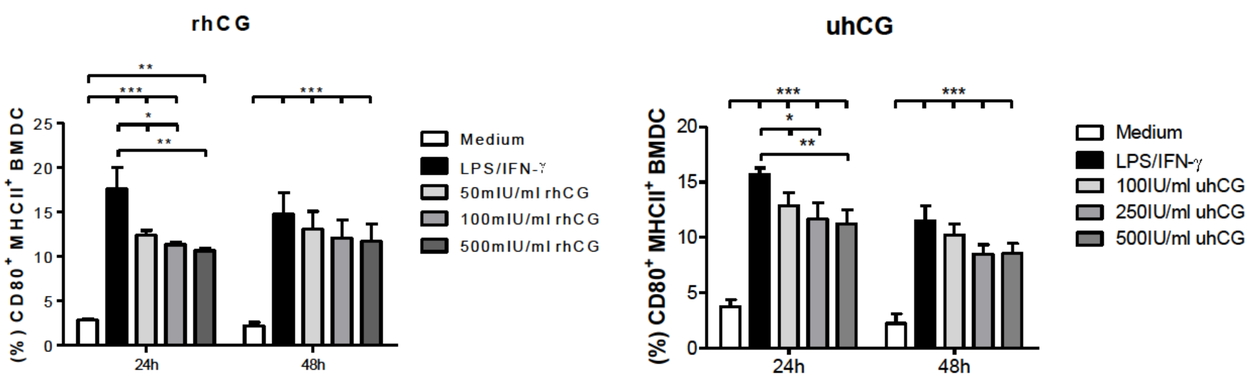
In vivo



Results

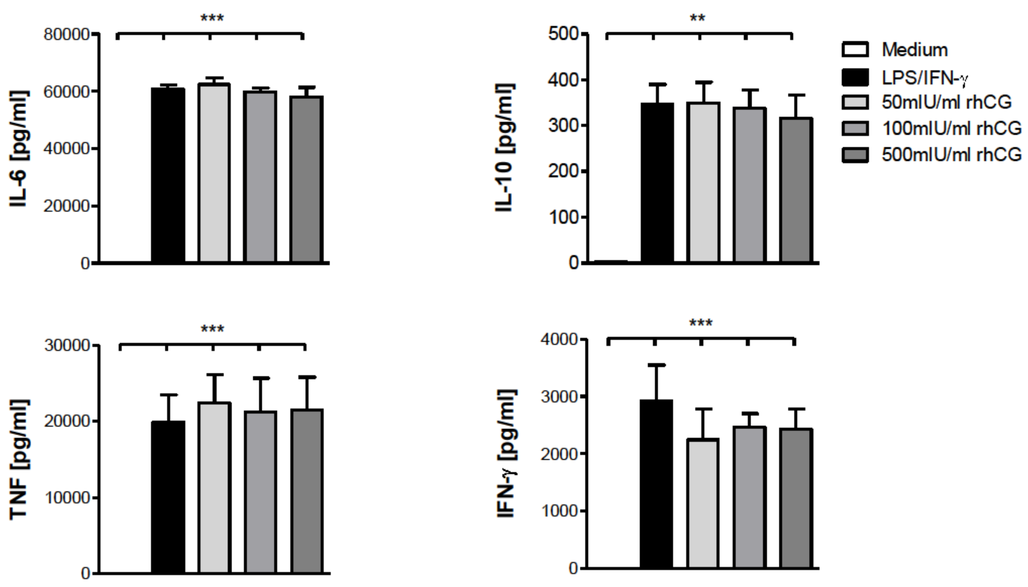
In vitro

Both, rhCG and uhCG hampered maturation of BMDC



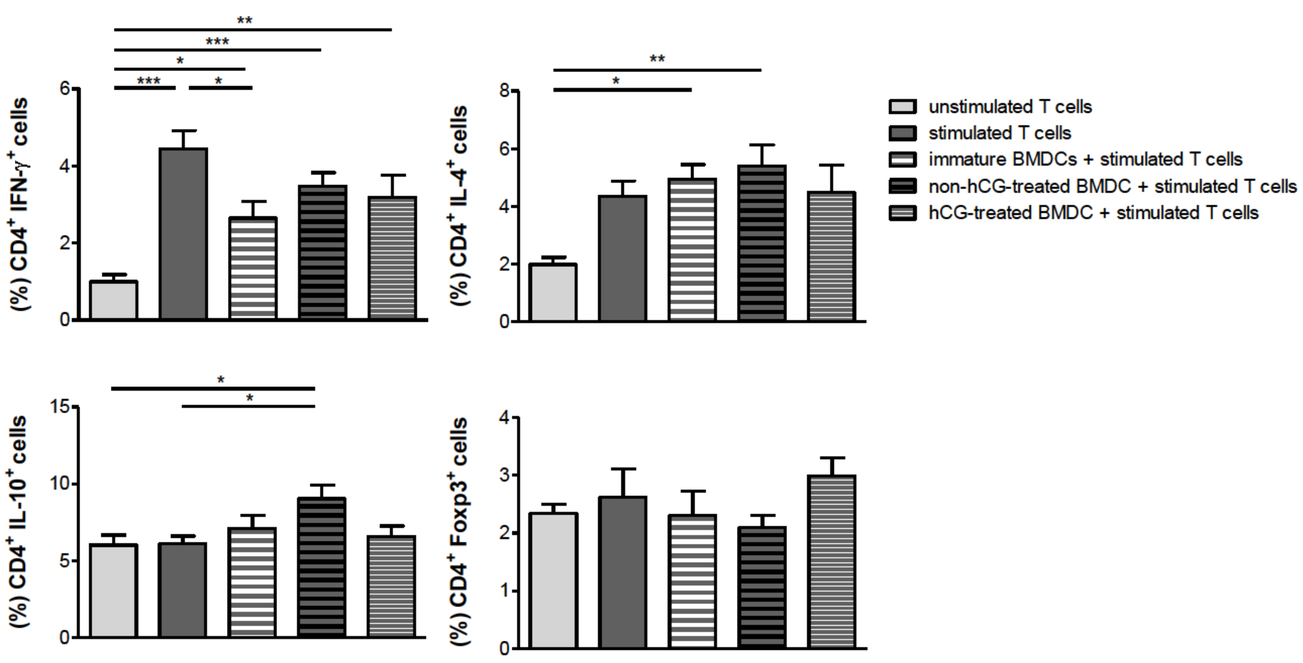
*=p<0.05; **=p<0.01; ***=p<0.001

rhCG did not alter cytokine secretion by stimulated BMDC



**=p<0.01; ***=p<0.001

rhCG-treated BMDC did not significantly influence TH1 and TH2 differentiation but increased the number of Treg cells



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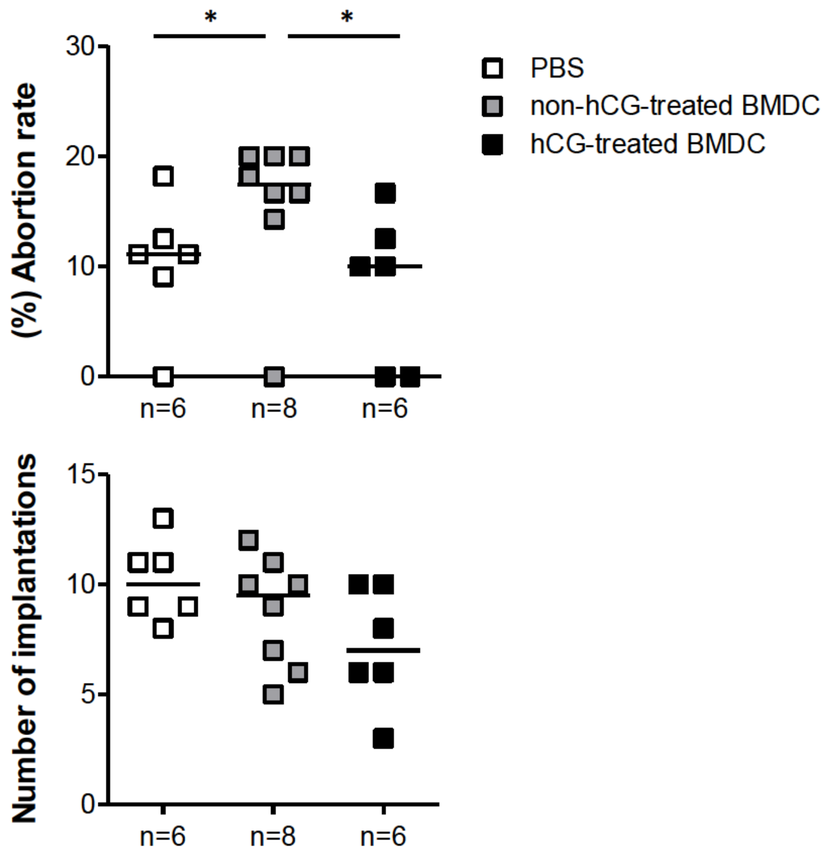
In vivo

Adoptive transfer of hCG-treated BMDC prevented an increase in the fetal resorption rate



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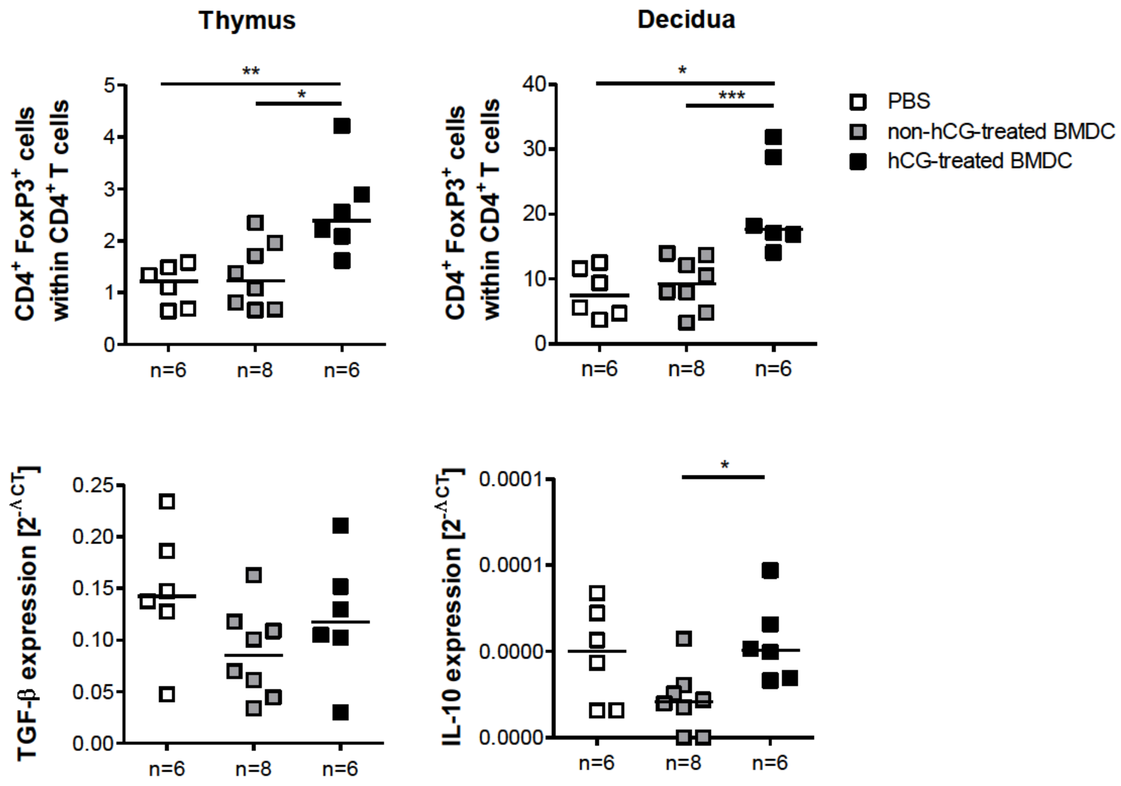
Adoptive transfer of hCG-treated BMDC resulted in increased Treg cell numbers and elevated Treg-associated cytokines



*=p<0.05; **=p<0.01; ***=p<0.001

Conclusions

Our results reveal that hCG contributes to Treg-mediated fetal protection by modulating the phenotype of DCs