PO-18

Progesterone receptor membrane component 1 as the mediator of the anti-inflammatory effects of progesterone in endocervical cells

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Introduction

- 임신 중 자궁경부 상피세포는 그 두께가 증가하고, mucus 분비를 증가시켜, anti-infectious, anti-inflammatory 효과.
- Short cervical length 와 자연조산 기왕력은 현 임신에서 조산의 가장 중요한 위험 인자, cervicovaginal fluid 에 inflammation mediate materials 증가.
- Vaginal progesterone: used to prevent for preterm birth
- **But**, endocervical epithelial cells에서 vaginal progesterone의 anti-inflammatory mechanism 은 정확히 규명되지 않았음.
- Progesterone receptor membrane component 1 (PGRMC1): non genomic progesterone receptor

Purpose

: Endocervical epithelial cells에서, PGRMC1 이 progesterone 의 anti-inflammatory effect의 mediator 인지 알아보고자 하였음.

Methods and Materials

- Endocervical tissue: 산후 출혈 등으로 적출된 자궁의 자궁경부에서 채취.
- Endocervical cells culture process (epithelial cells확인: CK18 발현 확인)
- Western blot 시행

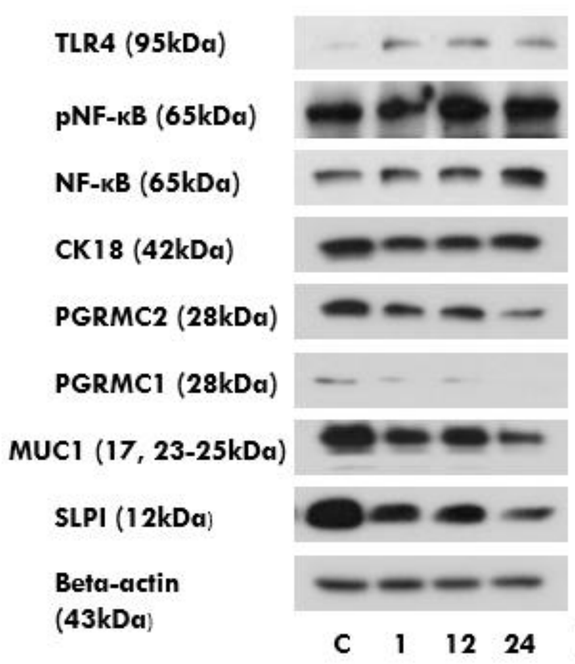
PGRmc1	Progesterone receptor
NF-κB, TLR4	Inflammatory marker
MUC1, SLPI	Anti-inflammatory protective marker

- Treatment

LPS	Inflammation 유도 (0.1μg/ml for 1hr)
P4	0.1μM for 24hrs
PGRMC1 transfection	

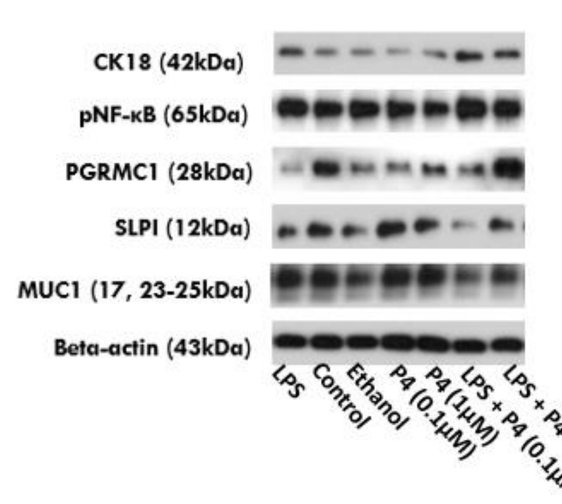
Results

1. LPS treat



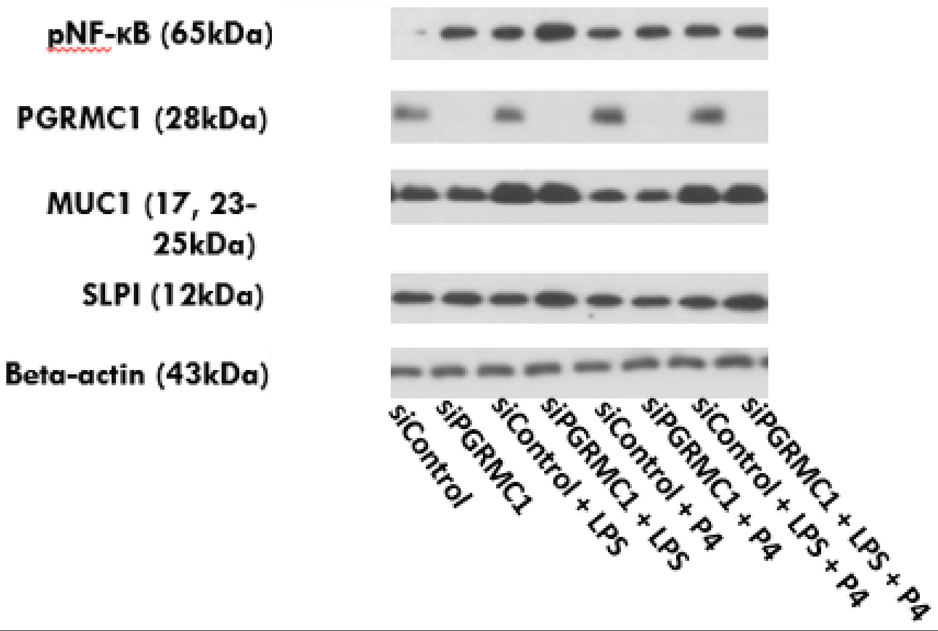
LPS treat	
PGRMC1	↓
NF-κB	↑
TLR4	↑
MUC1	↓
SLPI	↓

2. LPS, P4, LPS + P4 treat



	LPS	P4	LPS+P4
PGRMC1	↓	↑	↓
pNF-κB	↑	↓	↑
SLPI	↓	↑	↓
MUC1	↓	↑	↓

3. PGRMC1 transfection, LPS, P4, LPS + P4 treat



	LPS	P4	LPS+P4
PGRMC1	-	-	-
pNF-κB	siControl대비 ↑	siControl대비↑	siControl대비↑ siControl+LPS 대비↔
MUC1	siControl대비 ↑	siControl대비↓ siControl+LPS 대비↓↓	siControl대비↑ siControl+LPS 대비↑ siControl+P4 대비↑↑
SLPI	siControl대비 ↑	siControl대비↓ siControl+LPS 대비↓	siControl대비↑ siControl+LPS 대비↔ siControl+P4 대비↑

Conclusion

- The anti-inflammatory effects of progesterone might be through PGRMC1 in endocervical epithelial cells.