

## Supplementary 1.

### Scores of endometrioma invasion level on chorion epithelium of CAM.(25)

Score	Invasion Level	Chorion epithelium destruction	Description
1	Non-Invasion	Total Regularites	Endometrioma not yet enter CAM mesoderm, with intact chorion epithelium
2	Partial Invasion	Partial Irregularities	Endometrioma partially enter CAM mesoderm, partial destruction of chorion epithelium
3	Partial Invasion	Total Irregularities	Endometrioma partially enter CAM mesoderm, total destruction of chorion epithelium
4	Total Invasion	Reorganization	Endometrioma enter CAM mesoderm, with intact chorion epithelium

## Supplementary 2.

### MMP-9 activity in each invasion score.

Invasion Score	n	MMP-9 Activity Median (min-max)	p- value
1	7	0.15 (0.12–0.52)	0.005*
2	6	0.35 (0.04–0.70)	
3	11	0.58 (0.03–1.88)	
4	6	0.85 (0.48–1.38)	

\* $p<0.05$  is considered as significant, tested with Kruskal-Wallis test.

## Supplementary 3.

### Comparison between MMP-9 in each invasion level.

Invasion Score	p -value of MMP-9 Activity
1 and 2	0.836
1 and 3	0.008*
1 and 4	0.002*
2 and 3	0.062
2 and 4	0.015*
3 and 4	0.256

\* $p<0.05$  is considered as significant, tested with Mann-Whitney post hoc.

## Supplementary 4.

TIMP-1 expression in each invasion score.

Invasion Score	TIMP-1 Expression		<i>p</i> -value
	n	Median (min-max)	
1	7	0.84 (0.23–1.75)	0.148
2	6	0.73 (0.18–1.31)	
3	11	0.37 (0.04–1.31)	
4	6	0.28 (0.06–1.32)	

Tested with Kruskal-Wallis test.

## Supplementary 5.

Comparison of menstrual phase on MMP-9 activity and TIMP-1 expression.

Menstrual Phase	MMP-9 Activity		TIMP-1 Expression		
	n	Median (min-max)	<i>p</i> -value	Median (min-max)	<i>p</i> -value
Proliferative	13	0.57 (0.03–1.38)	0.341	0.46 (0.06–1.75)	0.742
Secretory	17	0.49 (0.04–1.88)		0.54 (0.04–1.32)	

Tested with Mann-Whitney post hoc.