

**Supplementary Table S1** Univariate and multivariable analyses results for factors associated with SERa+ cycles.

	Univariate analysis	P-value	Multivariable analysis	P-value
Patient's age at retrieval (years)	0.96 (0.92–1.00)	0.050		
Long protocol	0.96 (0.67–1.37)	0.805		
Antagonist protocol	1.06 (0.74–1.51)	0.748		
Semispontaneous protocol	0.69 (0.11–4.46)	0.696		
Recombinant gonadotrophins	1.35 (0.94–1.95)	0.105		
Urinary gonadotrophins	0.80 (0.52–1.23)	0.318		
Combined recombinant/urinary gonadotrophins	0.73 (0.43–1.23)	0.238		
Dose of gonadotrophins (IU/ml)	1.00 (1.00–1.00)	0.840		
Duration of stimulation (days)	1.10 (1.04–1.17)	0.002	1.09 (1.02–1.16)	0.008
17-beta-estradiol (ng/l) at trigger	1.00 (1.00–1.00)	0.285		
Progesterone (µg/l) at trigger	2.63 (1.37–5.04)	0.004		
Progesterone (imputed values)	2.13 (1.22–3.71)	0.008		

SERa, smooth endoplasmic reticulum aggregates.

**Supplementary Table SII** Demographic and stimulation data for 84 patients with both SERa+ and SERa– cycles.

	SERa+ cycles	SERa– cycles	P-value
No. of cycles	89	125	—
No. of patients		84	—
Patient's age at retrieval (years)		36.1 + 4.1	—
No. of receiving long protocol (%)	19 (21.3)	30 (24.0)	0.099
No. of receiving antagonist protocol (%)	70 (78.6)	95 (76.0)	
Dose of gonadotrophins (IU/ml)	2853.1 + 1540.8	2794.4 + 1540.8	0.045
Duration of stimulation (days)	11.2 + 2.2	10.7 + 2.2	0.0006
17-beta-estradiol (ng/l) at trigger	1506.2 ± 968.3	1514.6 ± 1047.5	0.951
Progesterone (µg/l) at trigger*	0.9 + 0.4	0.8 + 0.4	0.0009
Progesterone (imputed values)	0.8 + 0.2	0.7 + 0.2	0.031
No. of retrieved oocytes	9.3 + 5.3	8.9 + 5.3	0.447
No. of MII oocytes	7.5 + 4.4	7.1 + 4.3	0.307

\*Available for 22 SERa+ cycles and 25 SERa– cycles. Values are mean ± SD unless otherwise stated.  
 MII, metaphase II.

**Supplementary Table SIII Demographic and stimulation data for 16 patients with only cycles positive for SERa+ cycles and the 353 patients with only recurrent SERa– cycles.**

	Recurrent SERa+ cycles	Recurrent SERa– cycles	P-value
No. of cycles	56	816	—
No. of patients	16	353	—
Patient's age at pick-up (years)	35.6 + 5.5	36.7 + 4.1	0.389
No. of receiving long protocol (%)	12 (30.0)	193 (23.6)	0.267
No. of receiving antagonist protocol (%)	28 (70.0)	619 (75.9)	0.308
No. of receiving a semispontaneous protocol <sup>a</sup> (%)	0 (0.0)	4 (0.5)	—
Dose of gonadotrophins (IU/ml)	2589.8 + 1348.8	2623.5 + 1406.2	0.898
Duration of stimulation (days)	11.5 + 2.9	10.7 + 2.3	0.109
17-beta-estradiol (ng/l) at trigger	1757.7 + 982.3	1545.6 + 1034.6	0.080
Progesterone (µg/l) at trigger*	0.9 + 0.5	0.7 + 0.2	0.043
Progesterone (imputed values)	0.9 + 0.5	0.7 + 0.4	0.068
No. of retrieved oocytes	11.3 + 5.7	9.4 + 6.0	0.034
No. of MII oocytes	9.0 + 4.4	7.1 + 4.7	0.010

\*Available for 14 SERa+ cycles and 124 SERa– cycles.

<sup>a</sup>No GnRH analog, recombinant gonadotrophin for 14 days. Values are mean ± SD unless otherwise stated.

**Supplementary Table SIV** Embryological outcomes of SERa+ and SERa– oocytes in SERa+ and SERa– cycles of the same subset of patients ( $n = 83$ ).

	SERa+ oocytes in SERa+ cycles G = 0	SERa- oocytes in SERa+ cycles G = 1	SERa- oocytes in SERa- cycles G = 2	P-value G0 versus G1	P-value G0 versus G2	P-value G1 versus G2
No. of cycles		80	120			
No. of oocytes	55	429	765			
Fertilization (%)	31 + 45	59 + 31	59 + 28	<0.0001	<0.0001	0.328
Cleavage (%)	98 + 5	93 + 18	95 + 16	0.517	0.882	0.552
Top-quality embryo (%)	52 + 51	50 + 41	52 + 36	0.954	0.650	0.332
Blastulation (%) <sup>a</sup>	0 + 0	17 + 25	25 + 32	0.218	0.077	0.519

<sup>a</sup>Blastulation rate is expressed as no of developed blastocysts per all embryos that were cultured up to blastocyst stage. Values are mean  $\pm$  SD unless otherwise stated.

**Supplementary Table SV Clinical outcome of SERa+ and SERa– cycles of the same subset of patients (n = 83).**

	SERa+ cycles	SERa– cycles	P-value
Cancelled embryo transfer (%)	8/80 (10.0)	20/120 (16.7)	0.1823
Absence of fertilized oocytes (%)	6/80 (7.5)	9/120 (7.5)	1.000
Absence of viable embryos (%)	2/80 (2.5)	3/120 (2.5)	1.000
Delayed embryo transfer (freeze-all) (%)	0/80 (0.0)	6/120 (5.0)	0.0428
Cycles with days 2 and 3 ET (%)	66 <sup>a</sup> /72 (91.7)	86/100 (86.0)	
Implantation (%)	7/120 (5.8)	20/161 (12.4)	0.2511
Clinical pregnancy (%)	7/66 (10.6)	17/86 (19.8)	0.0635
Live birth rate (%)	7/120 (5.8)	16/161 (9.9)	0.2148
Miscarriage (%)	0/7 (0.0)	2/17 (11.8)	0.3527
Cycles with Day 5 ET	6/72 (8.3)	14/100 (14.0)	
Implantation (%)	4/9 (44.4)	4/16 (25.0)	0.3280
Clinical pregnancy (%)	4/6 (66.7)	7/14 (50.0)	0.5025
Live birth rate (%)	4/9 (44.4)	4/16 (25.0)	0.3280
Miscarriage (%)	0/4 (0.0)	2/7 (28.6)	0.2595

<sup>a</sup>Six embryo transfers (ET) were performed with mixed SERa+ and SERa– embryos and all resulted in no pregnancy.