

SUPPLEMENTARY TABLES

Supplementary Table 2. Differentially expressed proteins between PRE and APHERESIS samples in women with poor ovarian response (POR).

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
P02750	Leucine-rich alpha-2-glycoprotein	A2GL	LRG1	1,771
P01042	Kininogen-1	KNG1	KNG1	1,638
P02746	Complement C1q subcomponent subunit B	C1QB	C1QB	1,562
P10909	Clusterin	CLUS	CLU	1,299
P02748	Complement component C9	CO9	C9	1,053
P08185	Corticosteroid-binding globulin	CBG	SERPINA6	0,983
P06727	Apolipoprotein A-IV	APOA4	APOA4	0,953
P0C0L4	Complement C4-A	CO4A	C4A	0,727
P00748	Coagulation factor XII	FA12	F12	0,664
P02768	Serum albumin	ALBU	ALB	-0,414
P13473	Lysosome-associated membrane glycoprotein 2	LAMP2	LAMP2	-1,362

Supplementary Table 3. Differentially expressed proteins between POST and APHERESIS samples in women with poor ovarian response (POR).

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
Q8TER0	Sushi, nidogen and EGF-like domain-containing protein 1	SNED1	SNED1	2,335
P13796	Plastin-2	PLSL	LCP1	2,164
P19320	Vascular cell adhesion protein 1	VCAM1	VCAM1	2,133
P11597	Cholesteryl ester transfer protein	CETP	CETP	1,863
P18428	Lipopolysaccharide-binding protein	LBP	LBP	1,788
P14543	Nidogen-1	NID1	NID1	1,709
P08571	Monocyte differentiation antigen CD14	CD14	CD14	1,647
P02679	Fibrinogen gamma chain	FIBG	FGG	1,624
P0DOX8	Immunoglobulin lambda-1 light chain	IGL1	IGL1	1,624
O00533	Neural cell adhesion molecule L1-like protein	NCHL1	CHL1	1,623
P00751	Complement factor B	CFAB	CFB	1,615
P19827	Inter-alpha-trypsin inhibitor heavy chain H1	ITIH1	ITIH1	1,551
P04275	von Willebrand factor	VWF	VWF	1,505
P07360	Complement component C8 gamma chain	CO8G	C8G	1,455
P10643	Complement component C7	CO7	C7	1,439
P00488	Coagulation factor XIII A chain	F13A	F13A1	1,437
P02746	Complement C1q subcomponent subunit B	C1QB	C1QB	1,404
P12259	Coagulation factor V	FA5	F5	1,390
P19823	Inter-alpha-trypsin inhibitor heavy chain H2	ITIH2	ITIH2	1,379
P05546	Heparin cofactor 2	HEP2	SERPIND1	1,376
P01011	Alpha-1-antichymotrypsin	AACT	SERPINA3	1,293
P00748	Coagulation factor XII	FA12	F12	1,243
P29622	Kallistatin	KAIN	SERPINA4	1,234
P06396	Gelsolin	GELS	GSN	1,231

P09871	Complement C1s subcomponent	C1S	C1S	1,217
Q12805	EGF-containing fibulin-like extracellular matrix protein 1	FBLN3	EFEMP1	1,207
P0C0L4	Complement C4-A	CO4A	C4A	1,198
P02748	Complement component C9	CO9	C9	1,186
P05156	Complement factor I	CFAI	CFI	1,145
P23142	Fibulin-1	FBLN1	FBLN1	1,114
P07225	Vitamin K-dependent protein S	PROS	PROS1	1,106
P09211	Glutathione S-transferase P	GSTP1	GSTP1	1,104
P00740	Coagulation factor IX	FA9	F9	1,098
P15169	Carboxypeptidase N catalytic chain	CBPN	CPN1	1,058
P14151	L-selectin	LYAM1	SELL	1,051
P80748	Immunoglobulin lambda variable 3-21	LV321	IGLV3-21	1,015
P02675	Fibrinogen beta chain	FIBB	FGB	1,002
P05543	Thyroxine-binding globulin	THBG	SERPINA7	0,990
Q06033	Inter-alpha-trypsin inhibitor heavy chain H3	ITIH3	ITIH3	0,971
P36955	Pigment epithelium-derived factor	PEDF	SERPINF1	0,944
Q9BXR6	Complement factor H-related protein 5	FHR5	CFHR5	0,934
P01042	Kininogen-1	KNG1	KNG1	0,930
P43251	Biotinidase	BTD	BTD	0,903
P55058	Phospholipid transfer protein	PLTP	PLTP	0,873
P08185	Corticosteroid-binding globulin	CBG	SERPINA6	0,835
Q9UK55	Protein Z-dependent protease inhibitor	ZPI	SERPINA10	0,815
P22792	Carboxypeptidase N subunit 2	CPN2	CPN2	0,794
Q96KN2	Beta-Ala-His dipeptidase	CNDP1	CNDP1	0,785
Q14624	Inter-alpha-trypsin inhibitor heavy chain H4	ITIH4	ITIH4	0,784
Q9P225	Dynein heavy chain 2, axonemal	DYH2	DNAH2	0,755
P05155	Plasma protease C1 inhibitor	IC1	SERPING1	0,751
P01703	Immunoglobulin lambda variable 1-40	LV140	IGLV1-40	0,720
A0A0C4DH38	Immunoglobulin heavy variable 5-51	HV551	IGHV5-51	0,719
P01009	Alpha-1-antitrypsin	A1AT	SERPINA1	0,716
P06276	Cholinesterase	CHLE	BCHE	0,712
P01008	Antithrombin-III	ANT3	SERPINC1	0,623
O14791	Apolipoprotein L1	APOL1	APOL1	0,616
P08697	Alpha-2-antiplasmin	A2AP	SERPINF2	0,602
Q92820	Gamma-glutamyl hydrolase	GGH	GGH	0,584
Q9Y6R7	IgGFc-binding protein	FCGBP	FCGBP	0,534
P01624	Immunoglobulin kappa variable 3-15	KV315	IGKV3-15	0,415
P12035	Keratin, type II cytoskeletal 3	K2C3	KRT3	-0,383
P02768	Serum albumin	ALBU	ALB	-0,543
P43652	Afamin	AFAM	AFM	-0,613
P02656	Apolipoprotein C-III	APOC3	APOC3	-0,884
P02774	Vitamin D-binding protein	VTDB	GC	-0,932
Q13103	Secreted phosphoprotein 24	SPP24	SPP2	-0,948
P13473	Lysosome-associated membrane glycoprotein 2	LAMP2	LAMP2	-1,163
P32119	Peroxiredoxin-2	PRDX2	PRDX2	-2,298
P69905	Hemoglobin subunit alpha	HBA	HBA1	-3,616

The most prominent changes after ASCOT, considering the estimated fold change, are highlighted in yellow (upregulations) or blue (downregulations).

Supplementary Table 4. Ovarian reserve biomarkers of women with premature ovarian insufficiency (POI) before autologous stem cell ovarian transplantation (ASCOT) and three months after this reactivation technique.

Parameter	All (n = 6)		ASCOT arm (n = 3)		Mobilization arm (n = 3)	
	PRE	POST	PRE	POST	PRE	POST
AMH (pmol/L)	0.1 ± 0.1	0.3 ± 0.3*	0.1 ± 0.0	0.4 ± 0.3	0.1 ± 0.1	0.2 ± 0.1
AFC (n)	1.5 ± 1.2	2.5 ± 2.6	1.3 ± 0.9	2.0 ± 2.0	1.7 ± 1.5	3.0 ± 2.8
FSH (IU/mL)	99.9 ± 23.9	54.9 ± 35.9*	100.3 ± 17.3	60.2 ± 38.2*	99.5 ± 31.2	49.6 ± 33.6*

Wilcoxon nonparametric paired test was applied to compare PRE and POST ovarian reserve biomarkers for each patient, indicating the asterisk a *p*-value < 0.05. Abbreviations: AMH: anti-müllerian hormone; AFC: antral follicular count; FSH: follicle-stimulating hormone.

Supplementary Table 5. Protocols of controlled ovarian stimulation (COS) performed in patients with premature ovarian insufficiency (POI) after autologous stem cell ovarian transplantation (ASCOT) technique.

Parameter	All (n = 6)	ASCOT arm (n = 3)	Mobilization arm (n = 3)
COS cycles (n total)	11	5	6
FSH (IU/mL)	39.7 ± 16.8	38.1 ± 13.4	41.0 ± 20.4
AMH (pM)	0.4 ± 0.6	0.7 ± 0.8	0.1 ± 0.1
Days of stimulation	8.6 ± 5.8	5.4 ± 5.9	11.3 ± 4.6
E2 hCG day	189.2 ± 182.5	276.5 ± 222.2	116.3 ± 114.7
AFC total	1.6 ± 0.9	1.8 ± 1.1	1.5 ± 0.8
Punctured follicles	0.8 ± 0.4	1.0 ± 0.0	0.7 ± 0.5
MII oocytes	0.3 ± 0.5	0.4 ± 0.6	0.2 ± 0.4
Embryos	0.3 ± 0.5	0.3 ± 0.5	0.3 ± 0.5
Cancellation	2/11 (18.2%)	0/5 (0%)	2/6 (33.3%)

Supplementary Table 7. Differentially expressed proteins between all PRE and APHERESIS samples in women with premature ovarian insufficiency (POI).

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
P02745	Complement C1q subcomponent subunit A	C1QA	C1QA	2,75
P00736	Complement C1r subcomponent	C1R	C1R	2,70
P14151	L-selectin	LYAM1	SELL	1,45
P59666	Neutrophil defensin 3	DEF3	DEFA3	0,81
P00740	Coagulation factor IX	FA9	F9	0,65
P08571	Monocyte differentiation antigen CD14	CD14	CD14	0,51
P02748	Complement component C9	CO9	C9	0,51
P61626	Lysozyme C	LYSC	LYZ	0,43
P02747	Complement C1q subcomponent subunit C	C1QC	C1QC	0,35
P21333	Filamin-A	FLNA	FLNA	0,25
P0DOX5	Immunoglobulin gamma-1 heavy chain	IGG1	1 SV	0,22
P02741	C-reactive protein	CRP	CRP	-0,21
P32754	4-hydroxyphenylpyruvate dioxygenase	HPPD	HPD	-0,28
P11362	Fibroblast growth factor receptor 1	FGFR1	FGFR1	-0,43

Supplementary Table 8. Differentially expressed proteins between PRE and POST samples in the mobilization arm.

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
P01344	Insulin-like growth factor II	IGF2	IGF2	0,66
P05109	Protein S100-A8	S10A8	S100A8	0,51
Q15582	Transforming growth factor-beta-induced protein ig-h3	BGH3	TGFBI	0,45
P05451	Lithostathine-1-alpha	REG1A	REG1A	0,30
Q8IX21	SMC5-SMC6 complex localization factor protein 2	SLF2	SLF2	0,27
P02776	Platelet factor 4	PLF4	PF4	0,25
P15924	Desmoplakin	DESP	DSP	0,25
P01861	Immunoglobulin heavy constant gamma 4	IGHG4	IGHG4	0,24
O43866	CD5 antigen-like	CD5L	CD5L	0,15
P07996	Thrombospondin-1	TSP1	THBS1	0,14
P08253	72 kDa type IV collagenase	MMP2	MMP2	0,12
P33908	Mannosyl-oligosaccharide 1,2-alpha-mannosidase IA	MA1A1	MAN1A1	0,12
P00966	Argininosuccinate synthase	ASSY	ASS1	0,11
P02671	Fibrinogen alpha chain	FIBA	FGA	0,10
P08709	Coagulation factor VII	FA7	F7	0,06
P0DML3	Chorionic somatomammotropin hormone 2	CSH2	CSH2	0,05
P00450	Ceruloplasmin	CERU	CP	0,04
P09972	Fructose-bisphosphate aldolase C	ALDOC	ALDOC	0,02
P11226	Mannose-binding protein C	MBL2	MBL2	-0,01
P11021	Endoplasmic reticulum chaperone BiP	BIP	HSPA5	-0,01
P04003	C4b-binding protein alpha chain	C4BPA	C4BPA	-0,08
Q12860	Contactin-1	CNTN1	CNTN1	-0,20
O75882	Attractin	ATRN	ATRN	-0,24
P33151	Cadherin-5	CADH5	CDH5	-0,54

Supplementary Table 9. Differentially expressed proteins between PRE and POST samples in the ASCOT arm. Table supplied in excel format.

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
P61769	Beta-2-microglobulin	B2MG	B2M	0,35
P01344	Insulin-like growth factor II	IGF2	IGF2	0,23
Q01459	Di-N-acetylchitobiase	DIAC	CTBS	-0,02
P31944	Caspase-14	CASPE	CASP14	-0,33
Q7Z7G0	Target of Nesh-SH3	TARSH	ABI3BP	-0,35
Q8NE71	ATP-binding cassette sub-family F member 1	ABCF1	ABCF1	-0,43
P06396	Gelsolin	GELS	GSN	-0,49
P43251	Biotinidase	BTD	BTD	-0,50
O00299	Chloride intracellular channel protein 1	CLIC1	CLIC1	-0,52
P05160	Coagulation factor XIII B chain	F13B	F13B	-0,61
P01031	Complement C5	CO5	C5	-2,97

Supplementary Table 10. Differentially expressed proteins between POST samples of both arms of the study (mobilization and ASCOT). Table supplied in excel format.

Protein ID	Protein name	Protein abbreviation name	Gene name	Estimate
P06727	Apolipoprotein A-IV	APOA4	APOA4	0,64
P08697	Alpha-2-antiplasmin	A2AP	SERPINF2	0,56
Q16706	Alpha-mannosidase 2	MA2A1	MAN2A1	0,49
P01861	Immunoglobulin heavy constant gamma 4	IGHG4	IGHG4	0,22
P23142	Fibulin-1	FBLN1	FBLN1	0,00
Q13093	Platelet-activating factor acetylhydrolase	PAFA	PLA2G7	-0,39
Q06033	Inter-alpha-trypsin inhibitor heavy chain H3	ITIH3	ITIH3	-0,48
P0DOX5	Immunoglobulin gamma-1 heavy chain	IGG1	1 SV	-0,65
P02775	Platelet basic protein	CXCL7	PPBP	-0,66
P13646	Keratin, type I cytoskeletal 13	K1C13	KRT13	-0,88
P02746	Complement C1q subcomponent subunit B	C1QB	C1QB	-1,04
Q13822	Ectonucleotide pyrophosphatase/phosphodiesterase family member 2	ENPP2	ENPP2	-1,69
P07225	Vitamin K-dependent protein S	PROS	PROS1	-1,95
P01023	Alpha-2-macroglobulin	A2MG	A2M	-2,11
P80108	Phosphatidylinositol-glycan-specific phospholipase D	PHLD	GPLD1	-2,60
P48740	Mannan-binding lectin serine protease 1	MASP1	MASP1	-3,84