

Supplementary Information

Proteomic Profiling of Fallopian Tube-Derived Extracellular Vesicles Using a Microfluidic Tissue-on-Chip System

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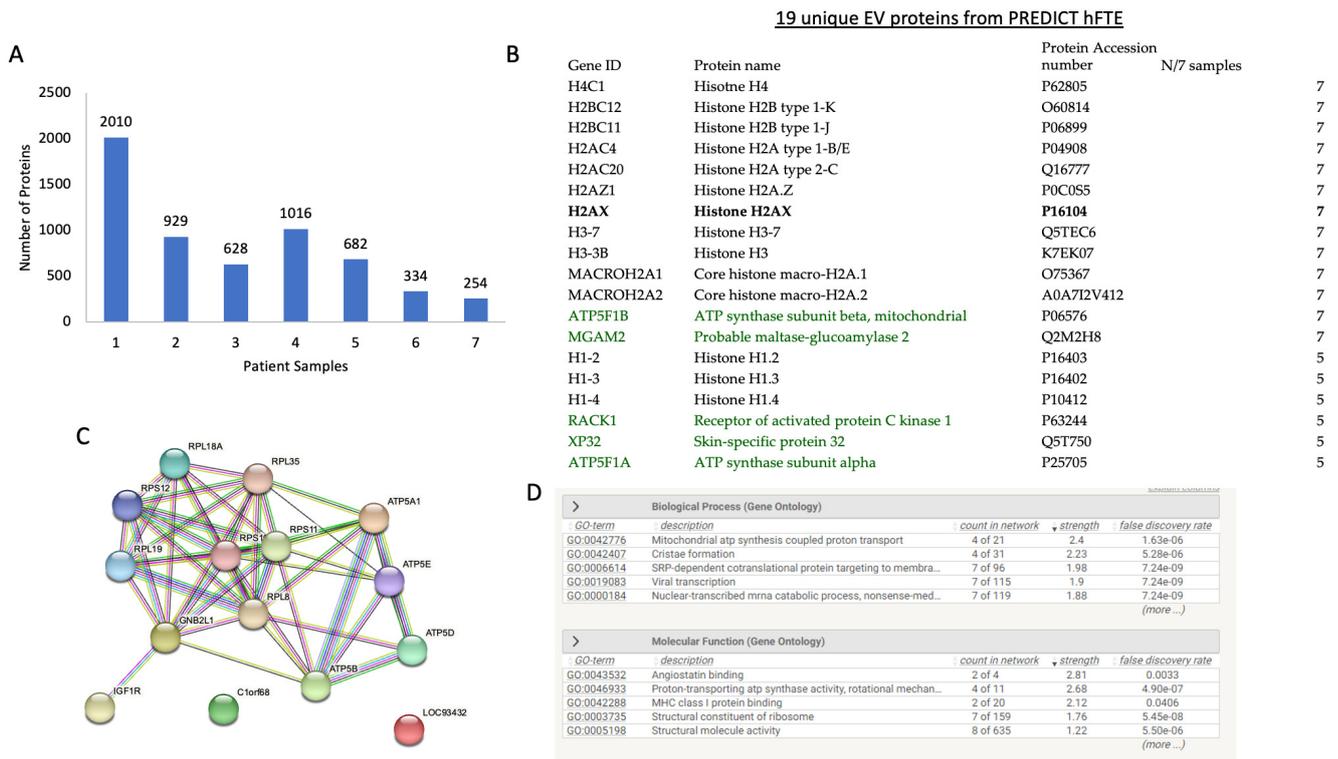


Figure S1. Proteomic profile of hFTE sEVs. (A) Number of protein identified in EVs derived from hFTE tissue explants from 7 different patients. (B) List of 19 unique EV proteins identified exclusively from our study. (C) Protein-protein interaction of 19 unique proteins. (D) Gene enrichment analysis showing biological process and molecular function associated with 19 unique proteins.

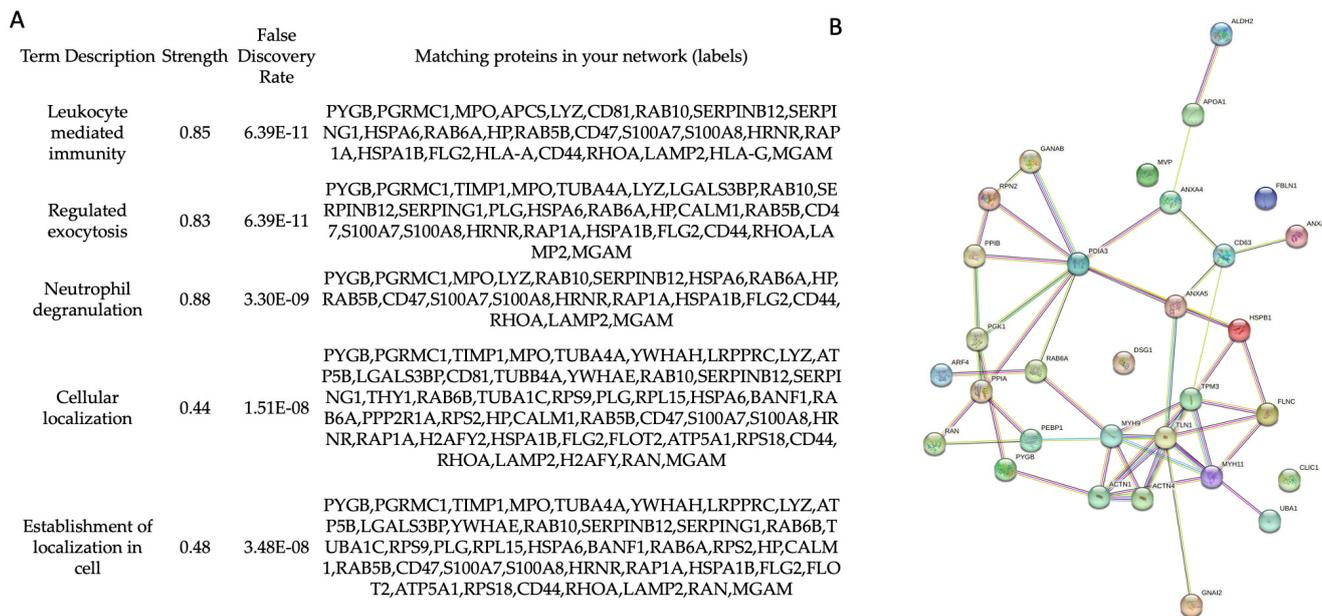


Figure S2. Pathway and protein interaction analysis of sEV proteins exclusively detected in human or serous tubal intraepithelial carcinoma (STIC). (A) Go term analysis of 119 human unique EV proteins. (B) Protein-protein interaction networks of 32 sEV proteins exclusively detected in STIC.

Category	CA#	Age	Reason for surgery	Uterine diagnosis	FT Dx
Sample 01	461_27257	65	Endometrial Cancer	Adenosarcoma	Benign
Sample 02	461_27262	57	Endometrial Cancer	Endometrial adenocarcinoma	Benign
Sample 03	461_27266	47	EIN	Endometrial intraepithelial neoplasia (EIN)	Benign
Sample 04	461_27268	63	Endometrial Cancer	Endometrial adenocarcinoma	Benign
Sample 05	461_27273	60	Endometrial Cancer	Endometrial adenocarcinoma	Benign
Sample 06	461_27277	64	Endometrial Cancer	Endometrial adenocarcinoma	Benign
Sample 07	461_27283	60	EIN	Atrophic endometrium	Benign

Table S1. Details of patient used as the source of fallopian tube epithelial tissue sEV in the proteomics.

	Bovine	Procine	Feline	Human
Bovine	1	0.068053993	0.108235294	0.198039216
Porcine	0.068053993	1	0.088515834	0.04386423
Feline	0.108235294	0.088515834	1	0.084084084
Human	0.198039216	0.04386423	0.084084084	1

Table S2. Jaccard similarity index of oviduct EV proteins detected in domestic, farm animals and human.

SN	Gene ID	Protein name
1	CD59	CD59 glycoprotein
2	CD81	CD81 antigen
3	CD9	CD9 antigen
4	CD47	Leukocyte surface antigen CD47
5	NT5E	5'-nucleotidase
6	ITGB1	Integrin beta
7	HLA-DRA	HLA-DRA
8	LAMP2	Lysosome-associated membrane glycoprotein 2
9	THY1	Thy-1 antigen
10	CD44	CD44 antigen
11	CD63	CD63 antigen
12	HLA-A	HLA class I histocompatibility antigen, alpha chain A
13	SLC2A1	Solute carrier family 2, facilitated glucose transporter member 1
14	DPP4	Dipeptidyl peptidase 4
15	HLA-G	HLA class I histocompatibility antigen, alpha chain G

Table S3. The list of 15 membrane proteins out of 61 common genes/proteins between hFTE transcriptome and hFTE sEV proteomics.