

## Supplementary Information

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

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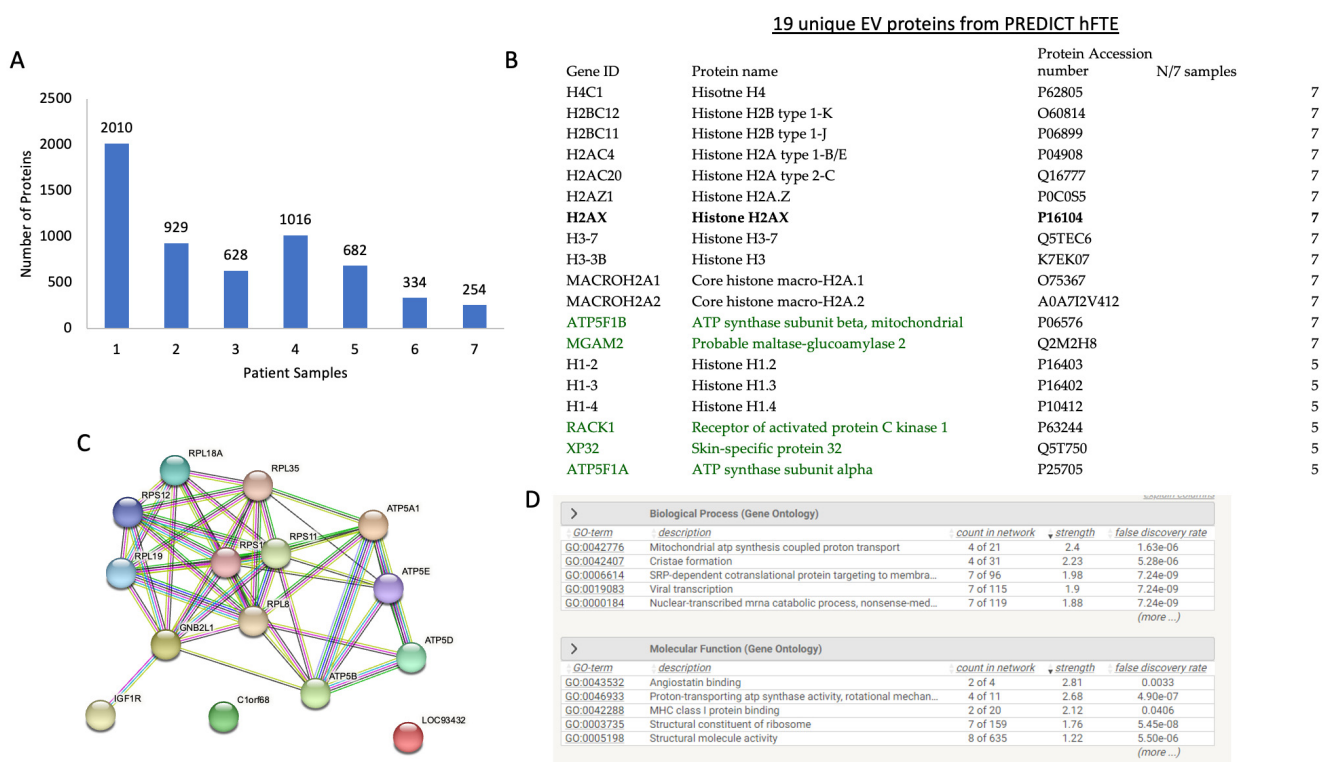
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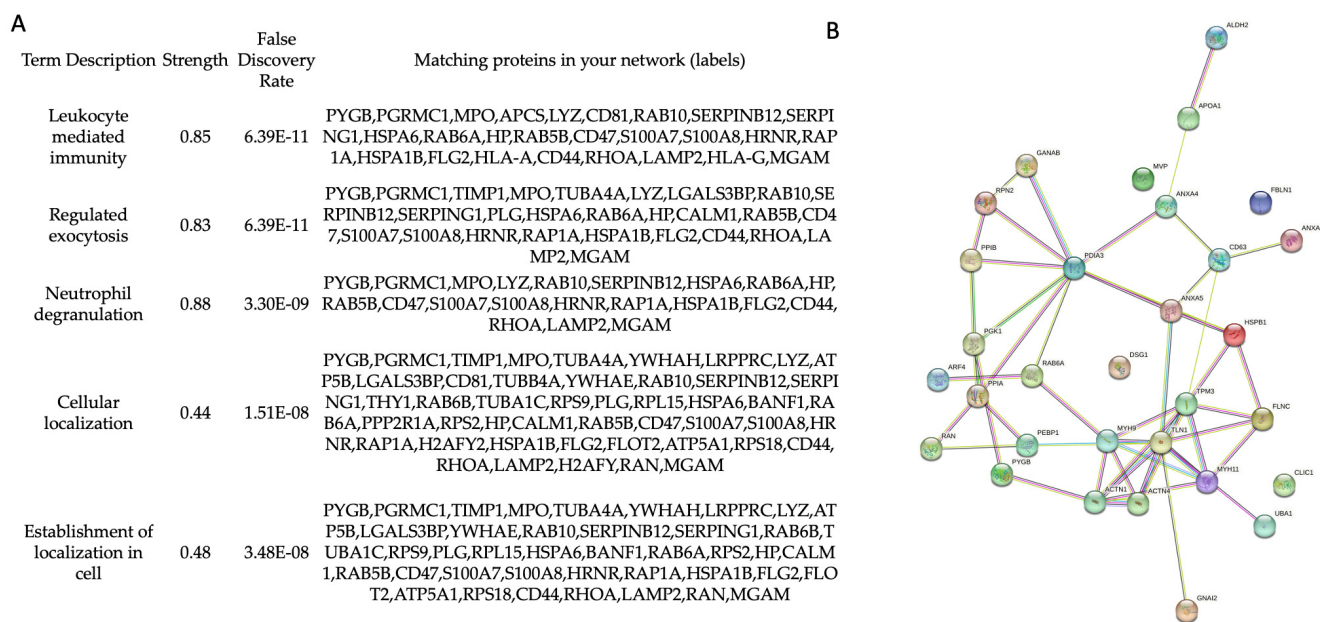
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### Table of Contents:

1. Figure S1 .....	2
2. Figure S2 .....	3
3. Table S1 .....	3
4. Table S2 .....	4
5. Table S3 .....	4



**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.