

SUPPLEMENTARY TABLES

Supplementary Table 5. All matrisome proteins identified in native and ECM-enriched mouse ovaries.

Experimental group	Division	Category	Protein names
Native	Core Matrisome	ECM Glycoproteins	Fibulin-5, Elastin, Microfibril-associated glycoprotein 4, SPARC-related modular calcium-binding protein 1, SPARC-like protein 1, Adiponectin, Von Willebrand factor A domain-containing protein 9, Cysteine-rich with EGF-like domain protein 2, Multimerin-2, Cysteine-rich with EGF-like domain protein 1
		ECM Regulators	Pregnancy zone protein, Cathepsin C, Murinoglobulin-2, Prothrombin, Kininogen-1, Inter-alpha-trypsin inhibitor heavy chain 1, Heparin cofactor 2, Cystatin-B, Cathepsin S, Prolyl 4-hydroxylase subunit alpha 1, Cystatin-C, Kininogen-2, Glia-derived nexin, Inter-alpha-trypsin inhibitor heavy chain 3, Alpha-1-antitrypsin 1-2, Carboxypeptidase N subunit 2, Pro-cathepsin H, Carboxypeptidase, Lysl oxidase homolog 2, Plasma protease C1 inhibitor, Corticosteroid-binding globulin, Angiotensinogen, Glycosaminoglycan xylosylkinase, Disintegrin and metalloproteinase domain-containing protein 17
	Matrisome-associated	ECM-affiliated Proteins	Galectin, Chondroitin sulfate proteoglycan 4, Hemopexin, Plexin domain-containing protein 2, Galectin-related protein, Syndecan-1, Semaphorin-7a
		Secreted Factors	Anti-Mullerian hormone, S100 calcium-binding protein A1, Hepatocyte growth factor activator, Follistatin, Secreted frizzled-related protein 1
ECM-Enriched	Core Matrisome	Collagens	Collagen-type XI- α 1 chain, Collagen-type V- α 1 chain
		ECM Glycoproteins	Von Willebrand factor A domain-containing protein 1
	Matrisome-associated	ECM Regulators	Trypsin 10
ECM-affiliated Proteins		Mannose-binding protein A, Complement component 1Q subunit B, C-type lectin domain family 10 member A	
Both	Core matrisome	Collagens	Collagen-type V- α 2 chain, Collagen-type III- α 1 chain, Collagen-type IV- α 1 chain, Collagen-type IV- α 2 chain, Collagen-type VI- α 6 chain, Collagen-type I- α 2 chain, Collagen-type XV- α 1 chain, Collagen-type I- α 1 chain, Collagen-type XVIII- α 1 chain, Collagen-type VI- α 2 chain, Collagen-type VI- α 1 chain, Collagen-type VI- α 4 chain, Collagen-type VI- α 4 chain, Collagen-type VI- α 5 chain, Collagen-type XII- α 1 chain, Collagen-type VI- α 3 chain
		ECM Glycoproteins	Periostin, Growth arrest-specific protein 6, Microfibrillar-associated protein 2, SPARC, Peroxidase, Latent-transforming growth factor beta-binding protein 3, EGF-containing fibulin-like extracellular matrix protein 2, Laminin gamma 3, Vitronectin, Procollagen C-endopeptidase enhancer 1, Matrilin-2, Latent-transforming growth factor beta-binding protein 4, Dermopontin, Latent-transforming growth factor beta-binding protein 1, Extracellular matrix protein 1, Tubulointerstitial nephritis antigen-like, Insulin-like growth factor-binding protein 7, Fibulin-1, Thrombospondin-4, Lactadherin, Zona pellucida sperm-binding protein 1, Zona pellucida sperm-binding protein 3, Adipocyte enhancer-binding protein 1, Fibrinogen alpha chain, EGF-containing fibulin-like extracellular matrix protein 1, Fibrinogen gamma, Elastin microfibril interface-located protein 1, Fibrillin-2, Zona pellucida sperm-binding protein 2, Von Willebrand factor A domain-containing protein 5a, Fibrinogen beta chain, Laminin alpha 5, Transforming growth factor-beta-induced, Nidogen-2, Laminin alpha 4, Thrombospondin-1, Agrin, Laminin alpha 2, Nidogen-1, Laminin beta 1, Laminin beta 2, Laminin gamma 1, Fibronectin, Laminin alpha 1, Tenascin-X, Fibrillin-1, Tenascin
	Matrisome-associated	Proteoglycans	Basement membrane-specific heparan sulfate proteoglycan core protein, Mimecan, Asporin, Lumican, Biglycan, Decorin, Prolargin
		ECM Regulators	Alpha-2-antiplasmin, Alpha-1-microglobulin/bikunin precursor, N-glycanase 1, Coagulation factor IX, Disintegrin and metalloproteinase domain-containing protein 10, Cathepsin F, Coagulation factor X, Coagulation factor XVIII A chain, Antithrombin-III, Cathepsin Z, Cathepsin L, Disintegrin and metalloproteinase domain-containing protein 9, High-temperature requirement A serine peptidase 1, Astacin-like metalloendopeptidase, Serine protease inhibitor B6B, Serine protease

ECM-affiliated Proteins	inhibitor A3K, Serine protease inhibitor A3G, Histidine-rich glycoprotein, Cathepsin B, Cathepsin D, Serine protease inhibitor B9, Inter-alpha-trypsin inhibitor heavy chain 5, Leukocyte elastase inhibitor A, Serine protease inhibitor H1, Transglutaminase 2, Plasminogen
Secreted Factors	Plexin-A1, Glypican-4, Plexin-B1, Glypican-1, Collectin-12, Galectin-9, Mannose-binding protein C, Galectin-1, Galectin-3, Annexin A11, Lectin mannose-binding 1, Plexin-B2, Annexin A7, Annexin A3, Annexin A4, Annexin A5, Annexin A1, Annexin A2, Annexin A6
	Wnt-4, S100 calcium-binding protein A11, S100 calcium-binding protein A6, S100 calcium-binding protein A10, S100 calcium-binding protein A4, Inhibin alpha chain, Secreted frizzled-related protein 4, Host cell factor 1, S100 calcium-binding protein A16, S100 calcium-binding protein A16, Fibroblast growth factor 2

Supplementary Table 6. Matrisome proteins significantly altered with advanced age.

Change in expression with age	Experimental group	Division	Category	Protein names
Upregulated	Native	Core matrisome	Collagens	Collagen-type VI- α 6 chain
			ECM Glycoproteins	Dermatopontin, Transforming growth factor-beta-induced
			Proteoglycans	Asporin, Biglycan
		Matrisome-associated	ECM Regulators	Cathepsin C, Cathepsin B, Cathepsin S, Heparin cofactor 2
			ECM-affiliated Proteins	Galectin-7
			Secreted Factors	Fibroblast growth factor 2, Secreted frizzled-related protein 1, Secreted frizzled-related protein 4, S100 calcium-binding protein A1
	ECM-Enriched	Core matrisome	ECM Glycoproteins	Fibrinogen alpha chain, Fibrinogen beta chain
			Proteoglycans	Mimecan
			ECM Regulators	Cathepsin F, Cathepsin L, Coagulation factor IX, Histidine-rich glycoprotein
		Matrisome-associated	ECM-affiliated Proteins	Glypican-1
			Secreted Factors	S100 calcium-binding protein A10, S100 calcium-binding protein A13, S100 calcium-binding protein A16
			Both	Core matrisome
Proteoglycans	Decorin, Lumican			
ECM Regulators	Alpha-1-microglobulin/bikunin precursor, Cathepsin D			
Matrisome-associated	ECM-affiliated Proteins	Ficolin-1, Mannose-binding protein C		
	Secreted Factors	Wnt-4		
	Downregulated	Native		Core matrisome
Matrisome-associated			Glia-derived nexin	
Secreted Factors			Anti-Mullerian hormone	
ECM-Enriched		Core matrisome	Collagens	Collagen-type XI- α 1 chain
			ECM Glycoproteins	Fibulin-1, Fibrillin-2, Thrombospondin-1, Zona pellucida sperm-binding protein 1, Zona pellucida sperm-binding protein 2, Zona pellucida sperm-binding protein 3
			Proteoglycans	Versican

	Matrisome-associated	ECM Regulators ECM-affiliated Proteins Secreted Factors	Serpin H1, Trypsin 10 Annexin A3, Annexin A5 S100 calcium-binding protein A4
	Core matrisome	ECM Glycoproteins	Thrombospondin-4
Both	Matrisome-associated	ECM Regulators Secreted Factors	Astacin-like metalloendopeptidase, Procollagen-lysine 2-oxoglutarate 5-dioxygenase Inhibin alpha chain