

ORIGINAL RESEARCH ARTICLE

Manufacturing multi-organs database: A comprehensive, predictive, and analytical biofabrication database

Supplementary Files

In [Table S1](#), we present the MeSH Terms for the 37 organs mentioned in the included articles, along with a count of the number of literatures, each organ is involved in. [Tables S2-S4](#) provide lists of keywords and their synonyms for retrieving information regarding cells, materials, and manufacturing strategies used in the literature.

Table S1. Statistic of papers regarding organs and the corresponding search keywords

Systems	Organs	Mesh terms	Paper numbers
Motor system	Bone	Bone and Bones[Majr]	793
	Joint	Joint[Majr]	352
	Muscle	Muscles [Majr]	530
Digestive system	Biliary tract	Biliary Tract[Majr]	21
	Esophagus	Esophagus[Majr]	30
	Intestines	Intestines [Majr] OR Lower Gastrointestinal Tract[Majr] OR Duodenum[Majr]	298
	Liver	Liver[Majr] OR Hepatocytes[Majr]	357
	Pancreas	Pancreas [Majr]	124
	Mouth	Mouth[Majr]	299
	Stomach	Stomach[Majr]	22
Respiratory system	Lung	Lung[Majr]	150
	Nose	Nose[Majr]	56
	Pharynx and larynx	Pharynx[Majr] OR Larynx[Majr]	50
	Trachea	Trachea[Majr]	68
Urinary system	Kidney	Kidney[Majr]	164
	Urinary Bladder	Urinary Bladder[Majr]	59
	Ureter	Ureter[Majr]	11
	Urethra	Urethra[Majr]	21
Reproductive system	Uterus	Uterus[Majr]	59
	Vagina	Vagina[Majr]	6
	Ovary	Ovary[Majr]	43
	Prostate	Prostate[Majr]	20
	Penis	Penis[Majr]	31
Endocrine system	Testis	Testis[Majr]	25
	Gonads	Gonads[Majr]	66
	Adrenal glands	Adrenal Glands[Majr]	2
	Thyroid gland	Thyroid Gland[Majr]	12
	Pineal gland	Pineal Gland[Majr]	0
	Parathyroid glands	Parathyroid Glands[Majr]	2
	Islets of Langerhans	Islets of Langerhans[Majr]	77
	Pituitary gland	Ptuitary Gland[Majr]	3

(Cont'd...)

Table S1. (Continued)

Systems	Organs	Mesh terms	Paper numbers
Immune system	Bone marrow	Bone Marrow[Majr]	19
	Lymphoid tissue	Lymphoid Tissue[Majr]	30
Nervous system	Brain	Brain[Majr]	314
	Spinal cord	Spinal Cord[Majr]	14
Circulatory system	Heart	Heart[Majr]	528
	Blood vessels	Blood Vessels[Majr]	473

Note: Kindly be aware that “Majr” represents a term from the Medical Subject Headings (MeSH), indicating its status as a focal point of discourse in the given article. MeSH is an authoritative thesaurus, employed by the National Library of Medicine to streamline the indexing process of articles found in PubMed.

Table S2. Full lists of cells and corresponding synonyms

Keywords grading 1	Keywords grading 2
Non-tissue-specific	ESCs/hESCs/embryonic stem cells
	iPSCs/induced pluripotent stem cells
	ASCs/hASCs/adult stem cells
	NSCs/neural stem cells
	MSCs/hMSCs/mesenchymal stem cells
	SMSCs/smooth muscle stem cells
	LSCs/lymphatic stem cells
	Fibroblasts
	Myoblasts
	HUVECs/human umbilical vein endothelial cells
EPCs/endothelial progenitor cells	
Tissue-specific (Bone)	Osteoblasts
	Osteoclasts
	BMSCs/bone marrow stromal cells
	Osteocytes
Tissue-specific (Joint)	Chondrocytes
	Synoviocytes
	Endothelial cells
Tissue-specific (Muscle)	Myoblasts
	Cardiomyocytes
	Smooth muscle cells
Tissue-specific (Biliary tract)	Cholangiocytes
	Gallbladder epithelial cells
	Hepatic stellate cells
Tissue-specific (Esophagus)	Esophageal epithelial cells
	Esophageal smooth muscle cells
	Enteric neurons

(Cont'd...)

Table S2. (Continued)

Keywords grading 1	Keywords grading 2
Tissue-specific (Intestines)	Intestinal epithelial cells
	Intestinal smooth muscle cells
	Enteric neurons
Tissue-specific (Liver)	Hepatocytes
	Hepatic stellate cells
	Kupffer cells
Tissue-specific (Pancreas)	Islet cells
	Pancreatic ductal cells
	Pancreatic exocrine cells
Tissue-specific (Mouth)	Oral epithelial cells
	Salivary gland cells
	Odontoblasts
	Gastric epithelial cells
Tissue-specific (Stomach)	Gastric parietal cells
	Gastric chief cells
	Alveolar epithelial cells
Tissue-specific (Lung)	Bronchial epithelial cells
	Alveolar macrophages
	Nasal epithelial cells
Tissue-specific (Nose)	Nasal gland cells
	Nasal mucosal capillary endothelial cells
	Pharyngeal and laryngeal epithelial cells
Tissue-specific (Pharynx and larynx)	Pharyngeal and laryngeal smooth muscle cells
	Enteric neurons
	Tracheal epithelial cells
Tissue-specific (Trachea)	Tracheal smooth muscle cells
	Tracheal chondrocytes
	Podocytes
Tissue-specific (Kidney)	Renal tubular epithelial cells
	Glomerular endothelial cells

(Cont'd...)

Table S2. (Continued)

Keywords grading 1	Keywords grading 2
Tissue-specific (Urinary bladder)	Urothelial cells Bladder smooth muscle cells Bladder interstitial cells
Tissue-specific (Ureter)	Ureteral epithelial cells Ureteral smooth muscle cells Ureteral interstitial cells
Tissue-specific (Urethra)	Urethral epithelial cells Urethral smooth muscle cells Urethral interstitial cells
Tissue-specific (Uterus)	Endometrial cells Uterine smooth muscle cell (myometrial cells) Uterine gland cells
Tissue-specific (Vagina)	Vaginal epithelial cells Vaginal smooth muscle cells Vaginal fibroblasts
Tissue-specific (Ovary)	Follicular cells Granulosa cells Theca cells
Tissue-specific (Prostate)	Prostate epithelial cells Prostate basal cells Prostate stromal cells
Tissue-specific (Penis)	Penile smooth muscle cells Penile endothelial cells Penile fibroblasts
Tissue-specific (Testis)	Spermatogonias Sertoli cells Leydig cells
Tissue-specific (Gonads)	Germ cells Supporting cells Steroidogenic cells
Tissue-specific (Adrenal glands)	Adrenocortical cells Adrenal medulla cells Adrenergic neurons
Tissue-specific (Thyroid gland)	Thyroid follicular cells Thyroid parafollicular cells Thyroid vascular endothelial cells
Tissue-specific (Pineal gland)	Pinealocytes Pineal astrocytes Pineal endothelial cells
Tissue-specific (Parathyroid glands)	Parathyroid chief cells Parathyroid myoepithelial cells Parathyroid endothelial cells

(Cont'd...)

Table S2. (Continued)

Keywords grading 1	Keywords grading 2
Tissue-specific (Islets of Langerhans)	Alpha cells Beta cells Delta cells
Tissue-specific (Pituitary gland)	Acidophil cells Basophil cells Chromophobe cells
Tissue-specific (Bone marrow)	Hematopoietic stem cells Bone marrow stromal cells Bone marrow macrophages
Tissue-specific (Lymphoid tissue)	B lymphocytes T lymphocytes Natural killer cells
Tissue-specific (Brain)	Neurons Astrocytes Oligodendrocytes
Tissue-specific (Spinal cord)	Spinal cord neurons Spinal cord astrocytes Spinal cord oligodendrocytes
Tissue-specific (Heart)	Cardiomyocytes Endocardial cells Cardiac fibroblasts
Tissue-specific (Blood vessels)	Vascular endothelial cells Vascular smooth muscle cells Perivascular neurons

Table S3. Full lists of biomaterials and corresponding synonyms

Keywords grading 1	Keywords grading 2
Natural hydrogel and derivatives	Gelatin/Methacrylate gelatin/ Gelatin-methacryloyl GelMA Collagen Fibrin/Fibrinogen Silk-fibroin Polypeptide Alginate/Alginate methacrylate/ Methacrylated alginate/ALMA/RGD-alginate HAMA/Methacrylated hyaluronic acid NorHA/Norbornene-modified hyaluronic acid Chitosan Agarose Gellan gum Dextran Matrigel
Synthetic hydrogel	PVA/Polyvinyl alcohol PEG/Polyethylene glycol Pluronic/F-127
Inorganic materials	Bioactive glass/BaG graphene oxide
Bioactive molecules	BMP/Bone morphogenetic proteins VEGF/Vascular endothelial growth factor TGF/Transforming growth factor Stromal cell-derived factor PrP/Platelet-rich plasma Peptide motifs
Synthetic polymer materials	PLA/Polylactic acid PCL/Polycaprolactone PLGA/Polylactic-co-glycolic acid ABS/Acrylonitrile butadiene styrene PLLA/Poly-L-lactic acid PEEK/Polyether-ether-ketone PDMS/Polydimethylsiloxane

(Cont'd...)

Table S3. (Continued)

Keywords grading 1	Keywords grading 2
Others	PVP Novogel AuNPs AgNPs PG-HA Pluronic Hydroxy-apatite Hyaluronic acid Silk Dextran

Table S4. Full lists of culture strategies and corresponding synonyms

Keywords grading 1	Keywords grading 2
2D culture	2D/Monolayer/Sandwich
3D culture	Spheroid/Spheroids/Organoid Chip/Chips/Organ-on-a-chip/Organ chips/Microfluidic Scaffold/Scaffolds