

Table S1 Literature search strategy

1. PubMed

Search number	Query	Results
#1	"Breast Neoplasms" [Mesh]	326,583
#2	((((((((((((((((((((((Breast Neoplasms [Title/Abstract]) OR (Breast Neoplasm [Title/Abstract])) OR (Neoplasm, Breast [Title/Abstract])) OR ("Breast Tumors" [Title/Abstract])) OR ("Breast Tumor" [Title/Abstract])) OR ("Tumor, Breast" [Title/Abstract])) OR ("Tumors, Breast" [Title/Abstract])) OR (Neoplasms, Breast [Title/Abstract])) OR (Breast Cancer [Title/Abstract])) OR (Cancer, Breast [Title/Abstract])) OR (Mammary Cancer [Title/Abstract])) OR (Cancer, Mammary [Title/Abstract])) OR (Cancers, Mammary [Title/Abstract])) OR (Mammary Cancers [Title/Abstract])) OR (Malignant Neoplasm of Breast [Title/Abstract])) OR (Breast Malignant Neoplasm [Title/Abstract])) OR (Breast Malignant Neoplasms [Title/Abstract])) OR (Malignant Tumor of Breast [Title/Abstract])) OR ("Breast Malignant Tumor" [Title/Abstract])) OR ("Breast Malignant Tumors" [Title/Abstract])) OR (Cancer of Breast [Title/Abstract])) OR (Cancer of the Breast [Title/Abstract])) OR (Mammary Carcinoma, Human [Title/Abstract])) OR (Carcinoma, Human Mammary [Title/Abstract])) OR (Carcinomas, Human Mammary [Title/Abstract])) OR (Human Mammary Carcinomas [Title/Abstract])) OR (Mammary Carcinomas, Human [Title/Abstract])) OR (Human Mammary Carcinoma [Title/Abstract])) OR (Mammary Neoplasms, Human [Title/Abstract])) OR (Human Mammary Neoplasm [Title/Abstract])) OR (Human Mammary Neoplasms [Title/Abstract])) OR (Neoplasm, Human Mammary [Title/Abstract])) OR (Neoplasms, Human Mammary [Title/Abstract])) OR (Mammary Neoplasm, Human [Title/Abstract])) OR (Breast Carcinoma [Title/Abstract])) OR (Breast Carcinomas [Title/Abstract])) OR (Carcinoma, Breast [Title/Abstract])) OR (Carcinomas, Breast [Title/Abstract]))	346,336
#3	#1 OR #2	425,268
#4	"Machine Learning" [Mesh]	44,716
#5	((((((((((((((((((((((machine learning [Title/Abstract]) OR (Transfer Learning [Title/Abstract])) OR (Deep learning [Title/Abstract])) OR (Ensemble Learning [Title/Abstract])) OR (artificial intelligence [Title/Abstract])) OR (Prediction model [Title/Abstract])) OR ("random forest" [Title/Abstract])) OR (artificial neural network [Title/Abstract])) OR ("Support vector machine" [Title/Abstract])) OR (SVM [Title/Abstract])) OR (Gradient Boosting Machine [Title/Abstract])) OR (Nomogram [Title/Abstract])) OR (XGboost [Title/Abstract])) OR (Decision tree [Title/Abstract])) OR (External validation [Title/Abstract]))	167,230
#6	#4 OR #5	173,167
#7	(((((((((Subtype [Title/Abstract]) OR (HR-Positive [Title/Abstract])) OR (HR-Negative [Title/Abstract])) OR (ERBB2-Positive [Title/Abstract])) OR (ERBB2-Negative [Title/Abstract])) OR (Triple-Negative Breast Cancer [Title/Abstract])) OR (Triple Negative Breast Cancer [Title/Abstract])) OR (Luminal A [Title/Abstract])) OR (Luminal B [Title/Abstract])) OR (HER 2 [Title/Abstract]))	140,867
#8	#3 AND #6 AND #7	481

2. Cochrane

Search number	Query	Results
#1	MeSH descriptor: [Breast Neoplasms] explode all trees	14709
#2	(Breast Neoplasms):ti,ab,kw OR (Breast Neoplasm):ti,ab,kw OR (Neoplasm, Breast):ti,ab,kw OR (Breast Tumors):ti,ab,kw OR (Breast Tumor):ti,ab,kw	25207
#3	(Tumor, Breast):ti,ab,kw OR (Tumors, Breast):ti,ab,kw OR (Neoplasms, Breast):ti,ab,kw OR (Breast Cancer):ti,ab,kw OR (Cancer, Breast):ti,ab,kw	41903
#4	(Mammary Cancer):ti,ab,kw OR (Cancer, Mammary):ti,ab,kw OR (Cancers, Mammary):ti,ab,kw OR (Mammary Cancers):ti,ab,kw OR (Malignant Neoplasm of Breast):ti,ab,kw	1579
#5	(Breast Malignant Neoplasm):ti,ab,kw OR (Breast Malignant Neoplasms):ti,ab,kw OR (Malignant Tumor of Breast):ti,ab,kw OR (Breast Malignant Tumor):ti,ab,kw OR (Breast Malignant Tumors):ti,ab,kw	1864
#6	(Cancer of Breast):ti,ab,kw OR (Cancer of the Breast):ti,ab,kw OR (Mammary Carcinoma, Human):ti,ab,kw OR (Carcinoma, Human Mammary):ti,ab,kw OR (Carcinomas, Human Mammary):ti,ab,kw	38268
#7	(Human Mammary Carcinomas):ti,ab,kw OR (Mammary Carcinomas, Human):ti,ab,kw OR (Human Mammary Carcinoma):ti,ab,kw OR (Mammary Neoplasms, Human):ti,ab,kw OR (Human Mammary Neoplasm):ti,ab,kw	134
#8	(Human Mammary Neoplasms):ti,ab,kw OR (Neoplasm, Human Mammary):ti,ab,kw OR (Neoplasms, Human Mammary):ti,ab,kw OR (Mammary Neoplasm, Human):ti,ab,kw OR (Breast Carcinoma):ti,ab,kw	4168
#9	(Breast Carcinomas):ti,ab,kw OR (Carcinoma, Breast):ti,ab,kw OR (Carcinomas, Breast):ti,ab,kw	4207
#10	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9	42355
#11	MeSH descriptor: [Machine Learning] explode all trees	252
#12	(machine learning):ti,ab,kw OR (Transfer Learning):ti,ab,kw OR (Deep learning):ti,ab,kw OR (Ensemble Learning):ti,ab,kw OR (artificial intelligence):ti,ab,kw	4960
#13	(Prediction model):ti,ab,kw OR (random forest):ti,ab,kw OR (artificial neural network):ti,ab,kw OR (Support vector machine):ti,ab,kw OR (SVM):ti,ab,kw	5944
#14	(Gradient Boosting Machine):ti,ab,kw OR (Nomogram):ti,ab,kw OR (XGboost):ti,ab,kw OR (Decision tree):ti,ab,kw OR (External validation):ti,ab,kw	2947
#15	#11 or #12 #13#14	11773
#16	("Subtype"):ti,ab,kw OR ("HR-Negative"):ti,ab,kw OR ("ERBB2-Negative"):ti,ab,kw OR ("ERBB2-Positive"):ti,ab,kw OR ("HR-Positive"):ti,ab,kw	5436
#17	(Triple-Negative Breast Cancer):ti,ab,kw OR (Triple Negative Breast Cancer):ti,ab,kw OR (Luminal A):ti,ab,kw OR (Luminal B):ti,ab,kw OR (HER 2):ti,ab,kw	10064
#18	#16 or #17	14977
#19	#10 and #15 and #18	55

3. Embase

Search number	Query	Results
#1	'breast tumor'/exp	627085
#2	breast neoplasms':ab,ti OR 'breast neoplasm':ab,ti OR 'neoplasm, breast':ab,ti OR 'breast tumors':ab,ti OR 'breast tumor':ab,ti OR 'tumor, breast':ab,ti OR 'tumors, breast':ab,ti OR 'neoplasms, breast':ab,ti OR 'breast cancer':ab,ti OR 'cancer, breast':ab,ti OR 'mammary cancer':ab,ti OR 'cancer, mammary':ab,ti OR 'cancers, mammary':ab,ti OR 'mammary cancers':ab,ti OR 'malignant neoplasm of breast':ab,ti OR 'breast malignant neoplasm':ab,ti OR 'breast malignant neoplasms':ab,ti OR 'malignant tumor of breast':ab,ti OR 'breast malignant tumor':ab,ti OR 'breast malignant tumors':ab,ti OR 'cancer of breast':ab,ti OR 'cancer of the breast':ab,ti OR 'mammary carcinoma, human':ab,ti OR 'carcinoma, human mammary':ab,ti OR 'carcinomas, human mammary':ab,ti OR 'human mammary carcinomas':ab,ti OR 'mammary carcinomas, human':ab,ti OR 'human mammary carcinoma':ab,ti OR 'mammary neoplasms, human':ab,ti OR 'human mammary neoplasm':ab,ti OR 'human mammary neoplasms':ab,ti OR 'neoplasm, human mammary':ab,ti OR 'neoplasms, human mammary':ab,ti OR 'mammary neoplasm, human':ab,ti OR 'breast carcinoma':ab,ti OR 'breast carcinomas':ab,ti OR 'carcinoma, breast':ab,ti OR 'carcinomas, breast':ab,ti	484925
#3	#1 OR #2	679245
#4	'machine learning'/exp	310083
#5	'machine learning':ab,ti OR 'transfer learning':ab,ti OR 'deep learning':ab,ti OR 'ensemble learning':ab,ti OR 'artificial intelligence':ab,ti OR 'prediction model':ab,ti OR 'random forest':ab,ti OR 'artificial neural network':ab,ti OR 'support vector machine':ab,ti OR svm:ab,ti OR 'gradient boosting machine':ab,ti OR nomogram:ab,ti OR xgboost:ab,ti OR 'decision tree':ab,ti OR 'external validation':ab,ti	196188
#6	#4 OR #5	393525
#7	subtype:ab,ti OR 'hr positive':ab,ti OR 'hr negative':ab,ti OR 'erbb2 positive':ab,ti OR 'erbb2 negative':ab,ti OR 'triple-negative breast cancer':ab,ti OR 'triple negative breast cancer':ab,ti OR 'luminal a':ab,ti OR 'luminal b':ab,ti OR 'her 2':ab,ti	208598
#8	#3 AND #6 AND #7	1354

4. Web of science

Search number	Query	Results
#1	Breast Neoplasms (Subject) or Breast Neoplasm (Subject) or Neoplasm, Breast (Subject) or Breast Tumors (Subject) or Breast Tumor (Subject) or Tumor, Breast (Subject) or Tumors, Breast (Subject) or Neoplasms, Breast (Subject) or Breast Cancer (Subject) or Cancer, Breast (Subject) or Mammary Cancer (Subject) or Cancer, Mammary (Subject) or Cancers, Mammary (Subject) or Mammary Cancers (Subject) or Malignant Neoplasm of Breast (Subject) or Breast Malignant Neoplasm (Subject) or Breast Malignant Neoplasms (Subject) or Malignant Tumor of Breast (Subject) or Breast Malignant Tumor (Subject) or Breast Malignant Tumors (Subject) or Cancer of Breast (Subject) or Cancer of the Breast (Subject) or Mammary Carcinoma, Human (Subject) or Carcinoma, Human Mammary (Subject) or Carcinomas, Human Mammary (Subject) or Human Mammary Carcinomas (Subject) or Mammary Carcinomas, Human (Subject) or Human Mammary Carcinoma (Subject) or Mammary Neoplasms, Human (Subject) or Human Mammary Neoplasm (Subject) or Human Mammary Neoplasms (Subject) or Neoplasm, Human Mammary (Subject) or Neoplasms, Human Mammary (Subject) or Mammary Neoplasm, Human (Subject) or Breast Carcinoma (Subject) or Breast Carcinomas (Subject) or Carcinoma, Breast (Subject) or Carcinomas, Breast (Subject)	675198
#2	#2.machine learning (Subject) or Transfer Learning (Subject) or Deep learning (Subject) or Ensemble Learning (Subject) or artificial intelligence (Subject) or Prediction model (Subject) or random forest (Subject) or artificial neural network (Subject) or Support vector machine (Subject) or SVM (Subject) or Gradient Boosting Machine (Subject) or Nomogram (Subject) or XGboost (Subject) or Decision tree (Subject) or External validation (Subject)	1,557,616
#3	#3Subtype (Subject) or HR-Positive (Subject) or HR-Negative (Subject) or ERBB2-Positive (Subject) or ERBB2-Negative (Subject) or Triple-Negative Breast Cancer (Subject) or Triple Negative Breast Cancer (Subject) or Luminal A (Subject) or Luminal B (Subject) or HER 2 (Subject)	370,096
#4	#1and#2and#3	1531