Supplementary Table 1. Most commonly used immunodeficient mouse strains*

This Table summarizes the principal features of the most common immunodeficient mouse strains used to generate PDX models. Modified from "The Jackson Laboratory" (www.jax.org). Abbreviations are: NK: Natural killer; SCID: severe combined immunodeficiency disorder; NOD/SCID: Non-obese diabetic; NSG: NOD/SCID/IL2λ-receptor null.

Mouse Strain	Deficiency	Advantages	Disadvantages	Applications
Nude (*nu*)	No functional T cells	Well characterized. High take-rate of human tumors. Hairless: improved surgery and tumor monitoring.	Functional B and NK cells. T-cell functionality increases with age.	Transplantation of murine and human (xenogeneic) tumors for imaging, metastasis and new therapies studies.
SCID (*scid*)	No functional T and B cells	Better engraftment of allogeneic and xenogeneic tumor cells and tissues than in Nude strain.	Functional NK cells. Spontaneous lymphomas.	Transplantation of murine and human (xenogeneic) tumors for imaging, metastasis and new therapies studies. Low levels of engraftment of human PBMC and fetal hematopoietic tissues.
NOD-SCID	No functional T and B cells, NK cells impaired	Well characterized. Low NK cell activity. Very low leakiness with age.	High incidence of lymphomas. Radiosensitive.	Higher levels of engraftment of PBMC and hematopoietic stem cells compared with the SCID strain.
NOD-SCID IL2rgnull (NSG)	No functional T, B and NK cells	Lymphoma-resistant. Excellent engraftment of allogeneic and xenogeneic tumor cells and tissues. Suitable for analysis of human cancer stem cells and metastasis.	Not well characterized.	Increased levels of growth, development and differentiation of human pluripotent stem cells and human tissue engrafted by intravenous, intrahepatic, intraperitoneal and intra-bone marrow injection.

Supplementary Table 2. Available PDX Models at the EurOPDX Consortium

This Table provides a summary of validated models currently available across the EurOPDX Consortium, with their current level of genetic and genomic characterization (CNA: copy number alterations, GEP: gene expression profiling).

Primary Tumor Type	Number of Models	Pathology	Origin	Annotated Clinical Data	Biological Data
Pancreatic cancer	229	Ductal adenocarcinoma: 222 Ampullary adenocarcinoma: 6 Neuroendocrine: 1	Primary tumor: 206 Metastasis: 23	197	GEP: 125 CNA: 102 Exomic Sequencing: 86
Colorectal	618	Adenocarcinoma: 617 Neuroendocrine: 1	Primary tumor: 245 Metastasis: 373	618	GEP: 344 CNA: 72 Exomic Sequencing: 113
Breast	107	Invasive ductal carcinoma: 101 Lobular: 4 Mucinous: 2	Primary tumor: 88 Metastasis: 19	107	GEP: 74 CNA: 42 Exomic Sequencing: 40
Ovary	134	Adenocarcinoma: 124 Carcinoma: 2 Carcinosarcoma: 8	Primary tumor: 119 Metastasis: 15	120	GEP: 5 Exomic sequencing: 27
Lung	68	Adenocarcinoma: 21 Squamous cell carcinoma: 20 Large cell carcinoma: 15 (3 neuroendocrine) Small cell carcinoma: 12	Primary tumor: 52 Metastasis: 16	33	Exomic Sequencing: 9
Mesothelioma	3	-	Primary tumor: 1 Metastasis: 2	1	Exomic sequencing: 1
Melanoma	117	Skin melanoma: 100 Uveal melanoma: 17	Primary: 13 Metastasis: 104	52	GEP: 19 CNA: 3

					Exomic Sequencing: 24
Brain	52	Glioblastoma: 52	Primary tumor: 52	52	CNA: 1 Exomic Sequencing: 51
Endometrial	64	Adenocarcinoma: 56 Carcinosarcoma: 8	Primary tumor: 56 Metastasis: 8	64	-
Head&Neck	13	-	Primary tumor: 10 Metastasis: 3	3	-
Testicular	16	Embryonal carcinoma: 5 Choriocarcinoma: 4 Yolk sac tumor: 3 Mixed: 4	Primary tumor: 13 Metastasis: 3	16	GEP: 8 CNA: 8 Exomic Sequencing: 10
Kidney	26	Clear cell tumor: 24 Papillary tumor: 2	Primary tumor: 24 Metastasis: 2	26	-
Sarcoma	32	Osteosarcoma: 13 Soft tissue sarcoma: 19	Primary tumor: 22 Metastasis: 10	32	GEP: 11 CNA: 9
Cholangiocarcinoma	6	Adenocarcinoma: 6	Primary tumor: 6	3	GEP: 2 CNA: 2 Exomic Sequencing: 2
Gastric	7	Adenocarcinoma: 7	Primary tumor: 6 Metastasis: 1	7	-
Esophagus	2	Adenocarcinoma: 2	Primary tumor: 1 Metastasis: 1	2	-
Lymphoma	3	Large B cell: 3	-	3	-
Pediatrics	1	Hepatoblastoma: 1	Metastasis: 1	1	-