		Total	endocrine	gastrointestinal	hepatic, pancreatic, biliary	mammary	neural	reproductive	respiratory	urinary	other
himlo	eation counts	all tumor	• neuroendocrine • thyroid	esophagus large intestine - locally advanced rectal stomach - diffuse-type gastric other gastrointestinal	juliaryliverpancreas	 mammary ER-positive breast triple-negative breast 	brainother neural	cervix ovary - Indih—grade serous ovarian prostate - castration-resistant prostate - metastatic castration-resistant prostate - neuroendocrine prostate uterus	lung - non-small-cell lung	 bjadder kidney clear cell renal cell carcinoma renal cell carcinoma 	bone dermal ymphatic yascular vascular other unidentified
	Lynch syndrome signet ring cell carcinoma	•		•							
tumor types	Lynch syndrome signet ring cell carcinoma small cell carcinoma squamous cell carcinoma	•		• •			•	•	• •		• •
model / source	patient-derived organoid patient-derived xenograft biobank GEMM assembloid	•	• •	• • • • •	• • •		•	• • • • • • •	• •	• • • •	
therapy	personalized medicine chemotherapy chemoresistance targeted therapy immunotherapy adoptive cell therapy immune checkpoint monoclonal antibody oncolytic virus radiotherapy radioresistance neoadjuvant therapy photodynamic therapy photothermal therapy	• • • • • • • • • • • • • • • • • • • •									
pharmacology	drug development drug testing drug delivery	•	•	• • • •	• • • • • • • • • • • • • • • • • • •	•	•	• • • • • •	0 •	• • • •	• • • •
physiology	tumorigenesis cancer stem cell tumor heterogeneity tumor microenvironment hypoxia angiogenesis CAF metastasis EMT intra/extravasation circulating tumor cell MET microsatellite instability	• • • • • • • • • • • • • • • • • • • •	• •								
immune cells	immune cells dendritic cell lymphocyte natural killer cell B cell T cell TIL macrophages TAM mast cell MDSC neutrophil					• •	• •		• •		
cellular process	apoptosis autophagy extracellular vesicles ER stress reactive oxigen species	•			• • •	• • •	•		• •	• • • •	• • • • •
techniques	gene editing genomics epigenetics transcriptomics scRNA seq proteomics metabolomics mass spectrometry high-content analysis optical metabolic imaging Raman spectroscopy	•	•		• • • •		• • • • • • • • • • • • • • • • • • • •		•		