

**SUPPLEMENTARY TABLE 4. Description of datasets analyzed.**

Name	Figures	Tile Dimensions	Grid Dimensions	Pixel Size (µm)	Method	Instrument	Tissue	Source	Location
Colon	4,5,S1	1280 x 1080	29 x 21	0.65	t-CyCIF	RareCyte Cytefinder	human colon	Published as part of this work	<a href="https://dx.doi.org/10.7303/syn25826362">https://dx.doi.org/10.7303/syn25826362</a>
CRC	6B	2048 x 2048	15 x 16	0.325	H&E brightfield	GE INCell 6000	human colorectal adenocarcinoma	Unpublished	
Tonsil1	S2	2752 x 2208	4 x 4	0.227	CODEX	Zeiss Axio Observer Z1	human tonsil	Synapse (MCMICRO exemplar data)	<a href="https://www.synapse.org/#!Synapse:syn24849819">https://www.synapse.org/#!Synapse:syn24849819</a>
Spleen	S3	1920 x 1440	9 x 9	0.38	CODEX	Keyence BZ-X800	human spleen	HuBMAP (University of Florida TMC / J. P. Aponte)	<a href="https://dx.doi.org/10.35079/HBM355.JDLK.244">https://dx.doi.org/10.35079/HBM355.JDLK.244</a>
TMA	S4	1280 x 1080	36 x 29	0.65	t-CyCIF	RareCyte Cytefinder	human, various	Synapse (EMIT exemplar data)	<a href="https://www.synapse.org/#!Synapse:syn22345748/wiki/609239">https://www.synapse.org/#!Synapse:syn22345748/wiki/609239</a>
Tonsil2	S5	1280 x 1080	15 x 25	0.65	t-CyCIF	RareCyte Cytefinder	human tonsil	Unpublished	
Brain2	S6	2048 x 2048	22 x 15 (approximate)	0.325	cyclic IF	Zeiss Axio Imager Z2	rat brain	Figshare (Maric et al.)	<a href="https://doi.org/10.6084/m9.figshare.13731585.v1">https://doi.org/10.6084/m9.figshare.13731585.v1</a>