Resource Summary Report

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imctools

RRID:SCR_017132
Type: Tool

Proper Citation

imctools (RRID:SCR_017132)

Resource Information

URL: https://github.com/BodenmillerGroup/imctools

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Description: Software Python package that implements preprocessing pipeline for imaging mass cytometry data. Can convert IMC raw files to tiff files that are used as inputs into CellProfiller, Ilastik, Fiji etc.

Abbreviations: IMCtools

Synonyms: imaging mass spectrometry tools

Resource Type: software resource, software application, data processing software

Defining Citation: PMID:29605184

Keywords: preprocessing, pipeline, imaging, mass, cytometry, data, convert, IMC, raw, file, TIFF

Funding: Swiss National Science Foundation ;
SNSF Assistant Professorship grant ;
PhosphonetPPM and MetastasiX SystemsX grant ;
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European Research Council ;
Roche Postdoctoral Fellowship

Availability: Free, Available for download, Freely available

Resource Name: imctools

Resource ID: SCR_017132

Alternate URLs: https://bodenmillergroup.github.io/imctools/build/html/index.html

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Ratings and Alerts

No rating or validation information has been found for imctools.

No alerts have been found for imctools.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 21 mentions in open access literature.

Listed below are recent publications. The full list is available at RRID.

Kuett L, et al. (2025) Distant Metastases of Breast Cancer Resemble Primary Tumors in Cancer Cell Composition but Differ in Immune Cell Phenotypes. Cancer research, 85(1), 15.

Egozi A, et al. (2023) Single-cell atlas of the human neonatal small intestine affected by necrotizing enterocolitis. PLoS biology, 21(5), e3002124.

Lien HE, et al. (2023) Single-cell profiling of low-stage endometrial cancers identifies low epithelial vimentin expression as a marker of recurrent disease. EBioMedicine, 92, 104595.

Weeratunga P, et al. (2023) Single cell spatial analysis reveals inflammatory foci of immature neutrophil and CD8 T cells in COVID-19 lungs. Nature communications, 14(1), 7216.

Bai Y, et al. (2023) Expanded vacuum-stable gels for multiplexed high-resolution spatial histopathology. Nature communications, 14(1), 4013.

Lu P, et al. (2023) IMC-Denoise: a content aware denoising pipeline to enhance Imaging Mass Cytometry. Nature communications, 14(1), 1601.

Strotton M, et al. (2023) Multielement Z-tag imaging by X-ray fluorescence microscopy for next-generation multiplex imaging. Nature methods, 20(9), 1310.

Märtens K, et al. (2023) Rarity: discovering rare cell populations from single-cell imaging data. Bioinformatics (Oxford, England), 39(12).

van Eijs MJM, et al. (2023) Highly multiplexed spatial analysis identifies tissue-resident memory T cells as drivers of ulcerative and immune checkpoint inhibitor colitis. iScience, 26(10), 107891.

Krijgsman D, et al. (2022) MATISSE: An analysis protocol for combining imaging mass cytometry with fluorescence microscopy to generate single-cell data. STAR protocols, 3(1), 101034.

Zhang J, et al. (2021) Multiplex imaging reveals the architecture of the tumor immune microenvironment. Cancer biology & medicine, 18(4), 949.

Baars MJD, et al. (2021) MATISSE: a method for improved single cell segmentation in imaging mass cytometry. BMC biology, 19(1), 99.

Schlecht A, et al. (2021) Imaging mass cytometry for high-dimensional tissue profiling in the eye. BMC ophthalmology, 21(1), 338.

Deng Y, et al. (2021) Helicobacter pylori infection disturbs the tumor immune microenvironment and is associated with a discrepant prognosis in gastric de novo diffuse large B-cell lymphoma. Journal for immunotherapy of cancer, 9(10).

Stockton JD, et al. (2021) Complete response to neoadjuvant chemoradiotherapy in rectal cancer is associated with RAS/AKT mutations and high tumour mutational burden. Radiation oncology (London, England), 16(1), 129.

Li R, et al. (2021) Characterization of the Tumor Immune Microenvironment in Lung Squamous Cell Carcinoma Using Imaging Mass Cytometry. Frontiers in oncology, 11, 620989.

Olaloye OO, et al. (2021) CD16+CD163+ monocytes traffic to sites of inflammation during necrotizing enterocolitis in premature infants. The Journal of experimental medicine, 218(9).

van Maldegem F, et al. (2021) Characterisation of tumour microenvironment remodelling following oncogene inhibition in preclinical studies with imaging mass cytometry. Nature communications, 12(1), 5906.

Wang C, et al. (2020) Imaging Mass Cytometric Analysis of Postmortem Tissues Reveals Dysregulated Immune Cell and Cytokine Responses in Multiple Organs of COVID-19 Patients. Frontiers in microbiology, 11, 600989.

Xie S, et al. (2020) Hyperion imaging system reveals heterogeneous tumor microenvironment of oral squamous cell carcinoma patients at T1N0M0 stage. Annals of translational medicine, 8(22), 1513.