

# MiMM\_SBILab Dataset: Microscopic Images of Multiple Myeloma (MiMM\_SBILab)



# Summary



## Redirection Notice

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Microscopic images were captured from bone marrow aspirate slides of patients diagnosed with multiple myeloma as per the standard guidelines. Slides were stained using Jenner- Giemsa stain. Images were captured at 1000x magnification using Nikon Eclipse-200 microscope equipped with a digital camera. Images were captured in raw BMP format with a size of



2560x1920 pixels. In all, this dataset consists of 85 images. All these 85 images were stain normalized using our in-house methodology before being used for segmentation. These stain normalized images have been provided as the annotated dataset with plasma cells marked in all image slides contained in a presentation for the ready reference of readers.

## Additional Notes

This collection has also been uploaded to the Harvard Blood Cancer Dataverse website. Please refer to [DOI 10.7910/DVN/XCX7ST](#) for more information.

## Additional Publications using this dataset:

- Ritu Gupta, Pramit Mallick, Rahul Duggal, Anubha Gupta, and Ojaswa Sharma, "Stain Color Normalization and Segmentation of Plasma Cells in Microscopic Images as a Prelude to Development of Computer Assisted Automated Disease Diagnostic Tool in Multiple Myeloma," 16th International Myeloma Workshop (IMW), India, March 2017 <https://doi.org/10.1016/j.clml.2017.03.178>

## Data Access

### Data Access

Data Type	Download all or Query/Filter	License
Slide Images (BMP, 1.27GB)	<a href="#">Download</a> <a href="#">Search</a>  (Download and apply the <a href="#">IBM-Aspera-Connect plugin</a> to your browser to retrieve this faspx package)	<a href="#">CC BY 3.0</a>
Annotated plasma cell images (PDF, 12.67 MB)	<a href="#">Download</a>	<a href="#">CC BY 3.0</a>

## Detailed Description

### Detailed Description

[Image Statistics](#)

[Pathology Imaging Statistics](#)

Modalities	Pathology
Number of Participants	5
Number of Studies	5
Number of Images	85
Images Size (GB)	1.27

### Citations & Data Usage Policy

## Citations & Data Usage Policy

Users must abide by the [TCIA Data Usage Policy and Restrictions](#). Attribution should include references to the following citations:

### ⓘ Data Citation

Gupta, R., & Gupta, A. (2019). **MiMM\_SBILab Dataset: Microscopic Images of Multiple Myeloma [Data set]**. The Cancer Imaging Archive. <https://doi.org/10.7937/tcia.2019.pnn6aypl>

### ⓘ Publication Citation

Gupta, A., Duggal, R., Gehlot, S., Gupta, R., Mangal, A., Kumar, L., Thakkar, N., & Satpathy, D. (2020). **GC TI-SN: Geometry-inspired chemical and tissue invariant stain normalization of microscopic medical images**. Medical Image Analysis, 65, 101788. <https://doi.org/10.1016/j.media.2020.101788>

### ⓘ Publication Citation

Gupta, A., Mallick, P., Sharma, O., Gupta, R., & Duggal, R. (2018). **PCSeg: Color model driven probabilistic multiphase level set based tool for plasma cell segmentation in multiple myeloma**. PLOS ONE, 13(12), e0207908. <https://doi.org/10.1371/journal.pone.0207908>

### ⓘ TCIA Citation

Clark, K., Vendt, B., Smith, K., Freymann, J., Kirby, J., Koppel, P., Moore, S., Phillips, S., Maffitt, D., Pringle, M., Tarbox, L., & Prior, F. (2013). **The Cancer Imaging Archive (TCIA): Maintaining and Operating a Public Information Repository**. Journal of Digital Imaging, 26(6), 1045–1057. <https://doi.org/10.1007/s10278-013-9622-7>

## Other Publications Using This Data

TCIA maintains a [list of publications](#) which leverage TCIA data. If you have a manuscript you'd like to add please [contact TCIA's Helpdesk](#).

### Versions

#### Version 1 (Current): Updated 2019/03/25

Data Type	Download all or Query/Filter
Images (BMP, 1.27GB)	<a href="#">Download Search</a> (Download and apply the <a href="#">IBM-Aspera-Connect plugin</a> to your browser to retrieve this faspx package)

Annotated plasma cell  
images (PDF)

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