

# Using VisiumExperiment class at spatialLIBD

Handling multiple samples

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# scaleFactors in a multi-sample object

- `scaleFactors` contains
  - a list with the required four scale factors names.
  - a fifth list element with the full list of scale factors for all our samples.

```
#Get scale factors  
scaleFactors(ve)
```

```
## $spot_diameter_fullres  
## [1] 96.37511  
##  
## $tissue_hires_scalef  
## [1] 0.150015  
##  
## $fiducial_diameter_fullres  
## [1] 144.5627  
##  
## $tissue_lowres_scalef  
## [1] 0.0450045  
##  
## $all_images  
## $all_images$`151507`  
## $all_images$`151507`$spot_diameter_fullres  
## [1] 96.37511  
##  
## $all_images$`151507`$tissue_hires_scalef  
## [1] 0.150015  
##  
## $all_images$`151507`$fiducial_diameter_fullres  
## [1] 144.5627  
##  
## $all_images$`151507`$tissue_lowres_scalef  
## [1] 0.0450045  
##
```

# scaleFactors in a multi-sample object

- `update_scaleFactors()` updates scale factors for a given input sample ID

```
## Check the default scale factors  
scaleFactors(ve)[1:4]
```

```
## $spot_diameter_fullres  
## [1] 96.37511  
##  
## $tissue_hires_scalef  
## [1] 0.150015  
##  
## $fiducial_diameter_fullres  
## [1] 144.5627  
##  
## $tissue_lowres_scalef  
## [1] 0.0450045
```

# scaleFactors in a multi-sample object

- `update_scaleFactors()` updates scale factors for a given input sample ID

```
## Replace them for those for the second image and check them  
ve <- update_scaleFactors(ve, "151508")  
scaleFactors(ve)[1:4]
```

```
## $spot_diameter_fullres  
## [1] 96.36957  
##  
## $tissue_hires_scalef  
## [1] 0.150015  
##  
## $fiducial_diameter_fullres  
## [1] 144.5543  
##  
## $tissue_lowres_scalef  
## [1] 0.0450045
```

# Getting tissue images from URLs

- Images are downloaded from URLs when the VisiumExperiment object is created to have local paths for imagePaths

```
imagePaths(ve)[1:2]
```

```
##  
                151507  
## "/Users/brendapardo/Library/Caches/BiocFileCache/6e17e40d5ec_15150  
7_tissue_lowres_image.png"  
##  
                151508  
## "/Users/brendapardo/Library/Caches/BiocFileCache/6e134363fac_15150  
8_tissue_lowres_image.png"
```

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