Table S5. Image features defined for tumor nuclear image profile generation[£].

Features		Area*	Perimeter[†]	Circularity[‡]	AR[§]	Roundness[‖]	Solidity[¶]
overall	Mean	√	√	√	√	√	√
	SD	√	√	√	√	√	√
Bin** 1	Mean	√	√	√	√	√	√
	SD	√	√	√	√	√	√
	Percentage[††]	√	NA	NA	NA	NA	NA
	Count[‡‡]	√	NA	NA	NA	NA	NA
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Bin 10	Mean	√	√	√	√	√	√
	SD	√	√	√	√	√	√
	Percentage	√	NA	NA	NA	NA	NA
	Count	√	NA	NA	NA	NA	NA
Compactness[§§]		√	NA	NA	NA	NA	NA

Abbreviations: AR, aspect ratio; √, feature for the parameter is calculated; SD, standard deviation; NA, feature for the parameter is not applicable.

[£]: The nuclear parameters such as area, perimeter, circularity, AR, roundness and solidity are automatically measured using ImageJ PlugIns.

*: Area (A) was calculated as the nucleus size in pixels.

[†]: Perimeter (C) was calculated as the length of the outside boundary of the nucleus.

[‡]: Circularity was calculated as $4\pi A/C^2$.

[§]: AR was calculated as major_axis/minor_axis.

[‖]: Roundness was calculated as $4A/(\pi \times major\_axis^2)$.

[¶]: Solidity was calculated as a ratio of the nucleus size to its convex area.

**: Bins were determined based on the nucleus size.

[††]: Percentage was calculated as a ratio of the number of nuclei in a bin versus in all bins.

[‡‡]: Count was calculated as the total number of nuclei in a bin.

[§§]: Compactness was calculated as a ratio of total number of nuclei to the number of views per sample.