

# Spotlight On:

Rev. 0.2

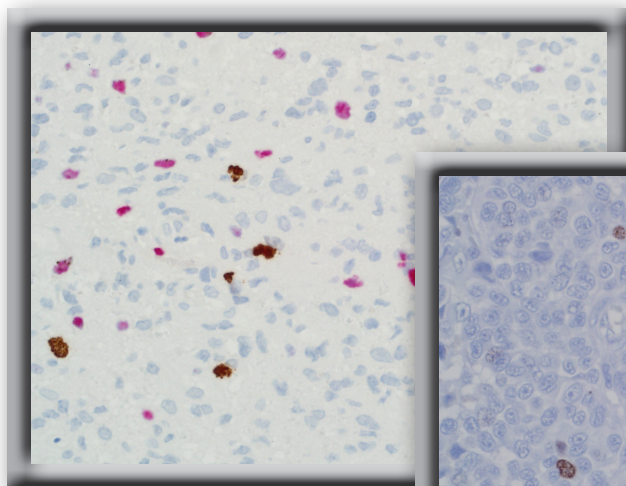
## Phosphohistone H3 (PHH3)

**M**itotic indexing is a common method for grading neoplasms of various types, such as meningiomas, melanomas, breast carcinomas, and soft tissue tumors. Historically the mitotic figures would be counted using H&E stains or Ki-67 immunohistochemistry. These results varied in both accuracy and efficiency of interpretation. Ambiguous morphologies would not allow for distinction from apoptotic figures, and lack of specificity for mitotic figures would not allow for distinction from distorted, pyknotic, or karyorrhectic nuclei. Histone H3, a chromatin protein that becomes phosphorylated during eukaryotic mitosis, is detected after this phosphorylation step

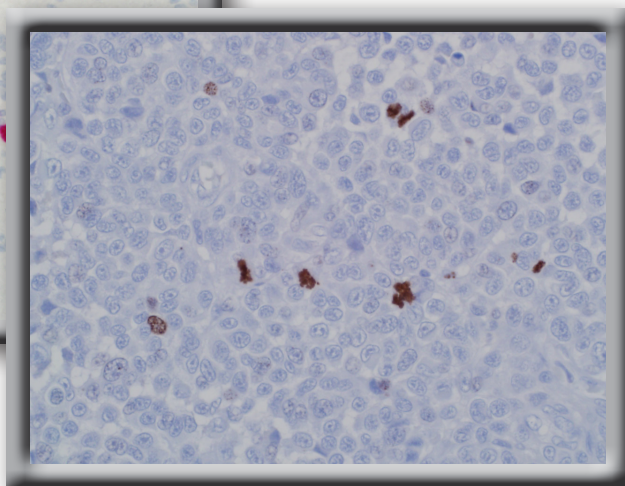
during the prophase, metaphase, anaphase, and telophase stages. It is not detected during the interphase stage of mitosis. Immunohistochemical detection of phosphohistone H3 may be the most accurate method of labeling mitotic figures, and allows for the fastest counting of mitotic figures for mitotic indexing of any histological stain.

### Benefits of PHH3

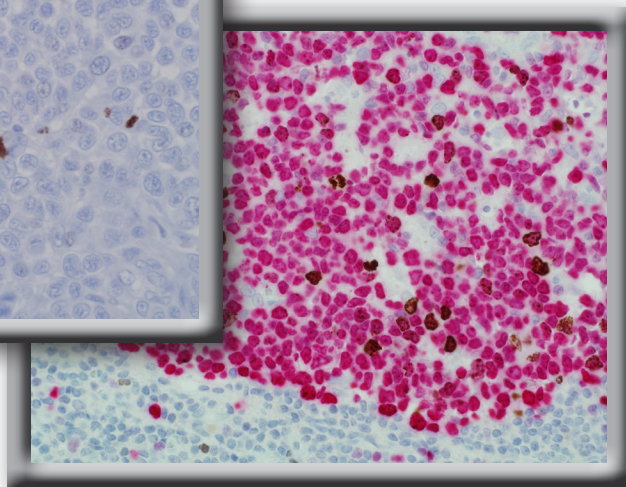
- For *in vitro* diagnostic use
- Faster identification of mitotic figures
- More accurate labeling of mitotic figures
- Distinction of mitotic figures from apoptotic figures
- Useful in a double stain with Ki-67 for distinguishing mitotic figures from other cells in proliferation cycle
- Essential for accurate grading of tumors



*Phosphohistone H3 brown, Ki-67 red  
dual stain on glioma*



*Phosphohistone H3 brown  
lymphoid tissue*



*Phosphohistone H3 brown, Ki-67 red  
dual stain on tonsil*

### Ordering Information:

0.1 ml concentrated . . . . .369A-14  
0.5 ml concentrated . . . . .369A-15

1 ml concentrated . . . . .369A-16  
1 ml prediluted . . . . .369A-17

7 ml prediluted . . . . .369A-18  
5 Positive Control Slides . .369S