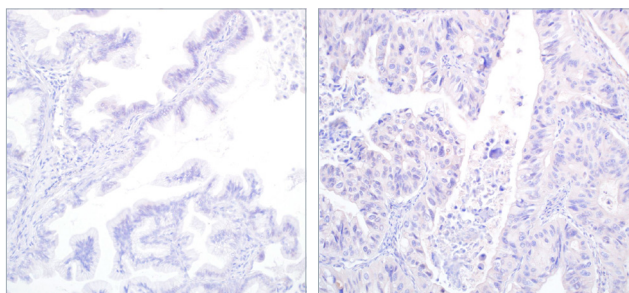
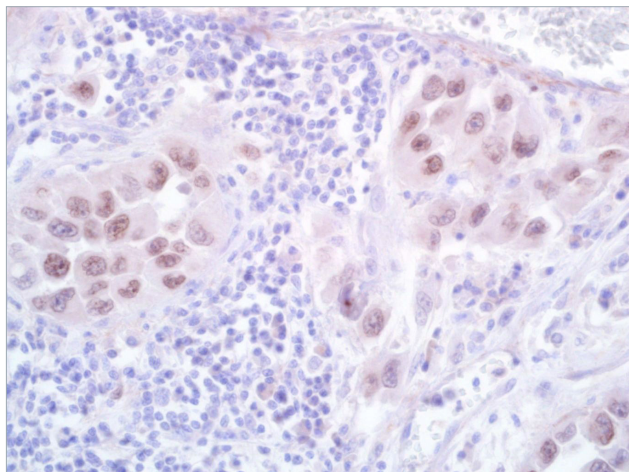
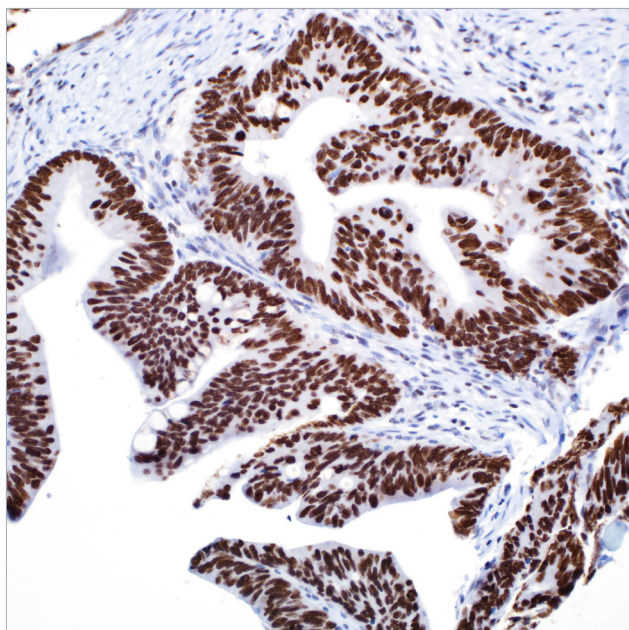


## Spotlight on: SATB2 (EP281)



**Top:** Rabbit monoclonal anti-SATB2 positively stains the nuclei of colorectal adenocarcinoma cells.

**Center:** Tumor cells of medullary carcinoma of the colon are positive for SATB2.

**Bottom-Left:** Rabbit monoclonal anti-SATB2 stains negatively for invasive mucinous adenocarcinoma of the lung.

**Bottom-Right:** Tumor cells of esophageal adenocarcinoma are negative for SATB2.

Colorectal cancer is the third most common cancer in men and women in the U.S. Of these colorectal cancers, 95% are adenocarcinomas.<sup>1</sup> Due to the high rate of metastasis of colorectal carcinomas, antibodies to accurately determine the site of origin are essential to pathologists. Cytokeratins 7 and 20 provide key immunophenotypic information to aid in the determination of the site of origin of an unknown primary carcinoma. Due to the broad reactivity of these cytokeratins, as well as expression in equivocal cases, the need for adjunct tests, such as the nuclear intestinal development transcription factor CDX-2, arose. Literature has suggested that CDX-2, with reactivity in Barrett's esophagus, sinonasal intestinal-type adenocarcinoma, and lung adenocarcinoma with enteric differentiation, serves more as a marker for cellular phenotype than an indicator of the origin of adenocarcinomas.<sup>2</sup>

Special AT-rich sequence-binding protein 2 (SATB2) is a transcription factor involved in gene regulation. Among epithelial cells, it is only expressed in the glandular epithelium of the lower GI tract.<sup>3</sup> SATB2 has been reported to have 93% specificity and 100% sensitivity for colorectal carcinomas when utilized in the immunohistochemical panel with cytokeratin 7 and cytokeratin 20.<sup>4</sup> The sensitivity and specificity of SATB2 for colorectal cancers make it a valuable antibody for differentiating carcinomas of unknown primaries.<sup>5</sup>

### Benefits of SATB2:

- *In vitro* diagnostic
- Nuclear visualization
- Favorable sensitivity and specificity for colorectal carcinomas when compared with CDX-2
- Labels medullary carcinomas of the colon that are cytokeratin 20 and CDX-2 negative<sup>6</sup>
- Reported negative in intestinal-type pancreatic intraductal papillary mucinous neoplasms (IPMNs) that are CDX-2 and cytokeratin 20 positive<sup>7</sup>
- Using RabMab® technology from Abcam, SATB2 has the sensitivity of a rabbit antibody with the specificity and cleanliness of a monoclonal antibody for a strong signal to noise ratio

### References:

1. <http://m.cancer.org/cancer/colonandrectumcancer/overviewguide/colorectal-cancer-overview-what-is-colorectal-cancer>
2. Ortiz-Rey JA, et al. Appl Immunohistochem Mol Morphol. 2005; 13:142-6.
3. Brocato J, et al. Carcinogenesis. 2015; 36:186-91.
4. Dragomir A, et al. Am J Clin Pathol. 2014; 141:630-8.
5. Ordonez NG. Adv Anat Pathol. 2014; 21:63-7.
6. Lin F, et al. Arch Pathol Lab Med. 2014; 138:1015-26.
7. Kobayashi M, et al. Acta Histochem Cytochem. 2014; 47:45-57.

### Ordering Information:

Volume	Part No.	Volume	Part No.
0.1 ml, concentrate	384R-14	1 ml, prediluted	384R-17
0.5 ml, concentrate	384R-15	7 ml, prediluted	384R-18
1 ml, concentrate	384R-16	Positive control slides	384S