DPAS
DANSK PATOLOGISELSKAB

Abstract: DPAS møde 2021

Forskningstræningsprojekt, ja/nej:Ja

Abstract titel: Quality assessment of SATB2 antibody clones

Forfattere: Martine Borrisholt, Christian Thomsen, Mogens Vyberg

Affiliations: Patologiafdelingen, Aalborg Universitetshospital, Danmark
[1] Afdeling, by, land mm.
[2] Afdeling, by, land mm.
[3] Afdeling, by, land mm.

Background:
When investigating an epithelial neoplasm of unknown origin, a panel of immunohistochemical (IHC) markers is often used. SATB2 has been proposed as a marker of neoplasms of lower gastrointestinal and renal origin. In a recent NordiQC assessment of SATB2 IHC assays from 105 laboratories, only 58% achieved a sufficient result (see www.nordiqc.org for details). The purpose of this study was in a reference laboratory to compare the analytical sensitivity of four different SATB2 antibody clones: EP281, EPNCIR130A, SATBA4B10, and CL0276.

Materials and methods:
Four tissue micro arrays (TMAs) were constructed from archived resection specimens containing 198 cores representing in total 99 primary adenocarcinomas from colon/rectum, esophagus, stomach, duodenum, jejunum or pancreas. Protocols were optimized for all four clones. Ten serial sections were cut from each TMA, and alternately stained for pan-cytokeratin and the four different SATB2 antibody clones. By use of digital analysis an H-score (0-300) was calculated for each tumor stained with one of the four clones. The tumors were subsequently divided according to H-scores (based on the most sensitive clone); high expressors (HE;150-300, n=44), low expressors (LE;10-149, n=17) or negative (0-10, n=38).

Results:
The clone EP281 had significantly higher average H-scores (HE:248; LE:56) than the other three clones (HE 129-169; LE 11-26). All the clones gave consistently positive reactions in high expressors, while among low expressors (EP281- positive), EPNCIR130A, SATBA4B10, and CL0276 were positive in 41-53%.

Conclusion:
The SATB2 antibody clone EP281 showed superior analytical sensitivity compared to EPNCIR130A, SATBA4B10, and CL0276.