

## STAINING OF OVCA1 ANTIBODY IN HUMAN MALIGNANCIES

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Immunohistochemistry biomarkers are currently being developed to target specific proteins found in cancer cells. The biomarker and putative tumor suppressor, OvCa1, has a function that is not well characterized. Due to lack of reagents, we developed monoclonal antibodies of OvCa1 to examine multiple human malignancies. Primary cancers with different histologic grades as well as with metastatic lesions were examined with the monoclonal antibodies. Ovarian cancer tissue samples from the IU Simon Cancer Center Tissue Bank were used for this study. The samples were fixed in neutral buffered formalin and processed into a paraffin block. The slides were microtomed, and immunohistochemistry (IHC) with the OvCa1 antibody was performed. Thirty-one low, medium, and high grade tumors as well as metastatic ovarian carcinomas were evaluated. All cases revealed a range of staining intensity with OvCa1. The results indicated that OvCa1 had the highest immunostaining in the high grade, Stage 3 to 4 ovarian carcinomas. Medium grade tumors had less OvCa1 expression, while the metastatic tumors had less staining than any of the other three grades. Immunostaining was observed primarily in the cytoplasm and nucleus of the tumor cells. In addition, we evaluated approximately 20 tumors from various different organs. These included prostate, breast, spleen, lung, colon, stomach, and kidney tumors, which were positive for immunostaining with the OvCa1 antibody. In summary, the results indicate that all histologic grades express the biomarker, OvCa1, and the staining intensity was highest in the high grade, Stage 3 and 4 tumors. Our preliminary studies demonstrate a further need to delineate OvCa1 as a potential biomarker, which could be used for early detection and diagnosis of ovarian cancer.

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