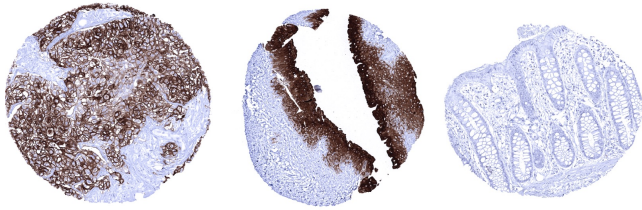## Uroplakin 1a (MSVA-735M)

Expressed in urothelium and urothelial tumors

„Large-scale human tissue analysis identifies Uroplakin 1a as a putative diagnostic marker for urothelial cancer." Published by Reiswich et al. in Pathology Research Practice 2022 Jul 18;237:154028. PMID: 35872365 ; clone MSVA-735M

Urothelial carcinomas are solid tumors that lack characteristic histological features. Immunohistochemistry is therefore often needed to distinguish urothelial carcinomas from other solid cancers that can for example include poorly differentiated adenocarcinomas of the prostate invading the urinary bladder. However, none of the currently used "urothelium markers" is highly specific. In this study, Reiswich et al. introduce our MSVA-735M uroplakin 1a antibody as a novel tool for the distinction of urothelial neoplasms. In their study on >5000 tumors they show Upk1a expression in 42% of muscle invasive urothelial cancers (often strong) but only in <5% of prostatic adenocarcinomas (usually weak). The authors suggest that Upk1a may be useful for the distinction of urothelial neoplasms as a part of a panel.

Uroplakin 1b (MSVA-734M)

"Large-scale human tissue analysis identifies Uroplakin 1b as a putative diagnostic marker in surgical pathology."

Published by Reiswich et al. in Human Pathology 2022 May 10;126:108-120. PMID: 35550834 ; clone MSVA-734M

Expressed in urothelium and urothelial tumors
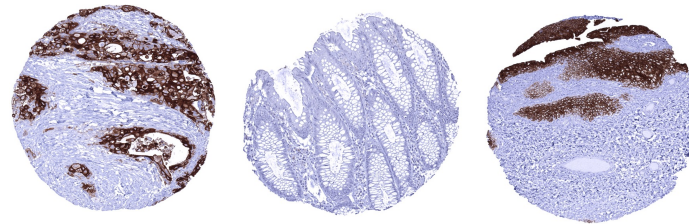
In this study, Reiswich et al. introduce our MSVA-734M uroplakin 1b antibody as a potential new tool for diagnostic surgical pathology. By analyzing 608 samples of 76 different normal tissue types, the authors showed that Upk1b expression is limited to few normal tissues including mesothelial and urothelial cells. The subsequent analysis of 14,061 samples from 127 different tumor types showed that Upk1b expression in cancer was preferentially seen in tumors derived from these cell types including urothelial carcinoma and mesothelioma. The authors propose that immunohistochemical Upk1b analysis could be included into panels designed for the distinction of malignant mesothelioma from adenocarcinoma of the lung or urothelial carcinoma from prostatic adenocarcinoma in the bladder.
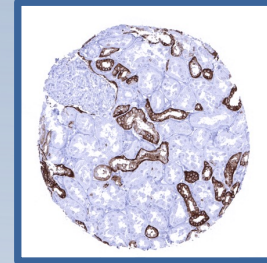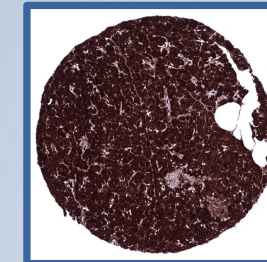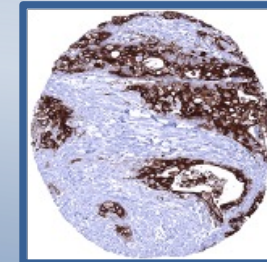
MSVA Product Highlights

MS
Validated Antibodies
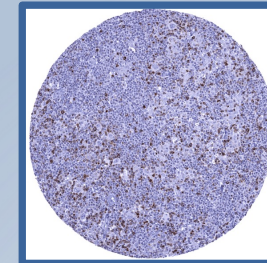
CTLA-4 MSVA-152R

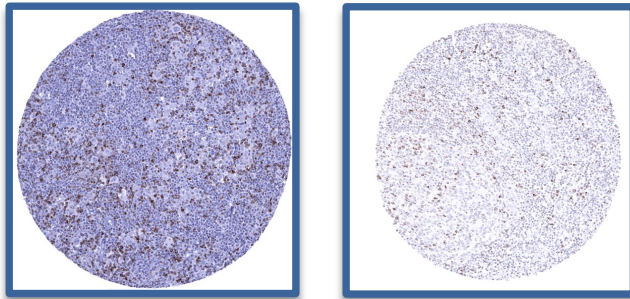**TROP-2 MSVA-733R**

CPA1 MSVA-601M

Uroplakin 1b MSVA-734M

CTLA-4 (MSVA-152R)

„Semi-automated validation and quantification of CTLA-4 in 90 different tumor entities using multiple antibodies and artificial intelligence." Published by Dum et al. in Lab Invest. 2022 Jan 29. PMID: 35091676

Pivotal target in immune-oncology

The immunohistochemical visualization of CTLA-4 on formalin fixed tissues has so far been hindered by a relative lack of CTLA-4 antibodies suitable for immunohistochemistry.

In a recent study published in Laboratory Investigation by nature, researchers from the University of Hamburg have successfully analyzed 4582 tumor samples from 90 different tumor entities for quantification of CTLA-4 positive lymphocytes in formalin fixed archival tissues.

In their paper, Dum et al. utilized two antibodies including our newly developed clone MSVA-152R in combination with artificial intelligence to reliably count CTLA-4 positive cells. Based on these data, the antibody MSVA-152R has emerged as a highly useful tool for research on CTLA-4.
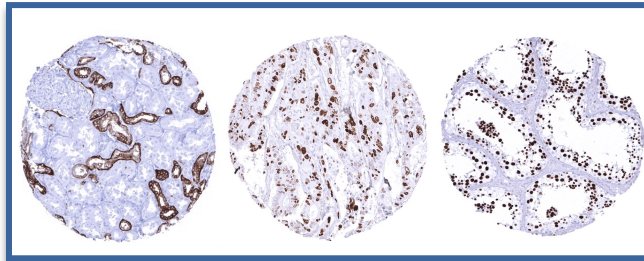
TROP-2 (MSVA-733R)

Therapeutic target protein

"Trophoblast cell surface antigen 2 (TROP2) expression in human tumors: A tissue microarray study on 18,563 tumors." *Dum et al. Published in Pathobiology. 2022 Apr 27:1-14. PMID: 35477165.*

Trophoblast cell surface antigen 2 (TACSTD / Trop-2) is the target of sacituzumab govitecan, an antibody-drug conjugate approved for treatment of triple negative breast cancer and urothelial carcinoma. TROP2 is expressed in many more tumor entities. However, most currently available data on TROP2 expression in cancer tissues is based on RNA profiling. Only few studies have so far analyzed large cohorts of cancers for protein expression by immunohistochemistry.

To clarify the prevalence of TROP2 protein expression in cancer, researchers from the University of Hamburg have successfully analyzed 16'024 tumor tissue samples from 150 different tumor types for TROP2 expression in formalin fixed archival tissues [1]. They used our novel rabbit recombinant antibody (MSVA-733R) which was thoroughly validated on 76 different normal tissue types by comparison with a second independent second antibody and RNA expression data.

CPA1 (MSVA-601M)

Protein expressed on normal and neoplastic pancreatic acinar cells
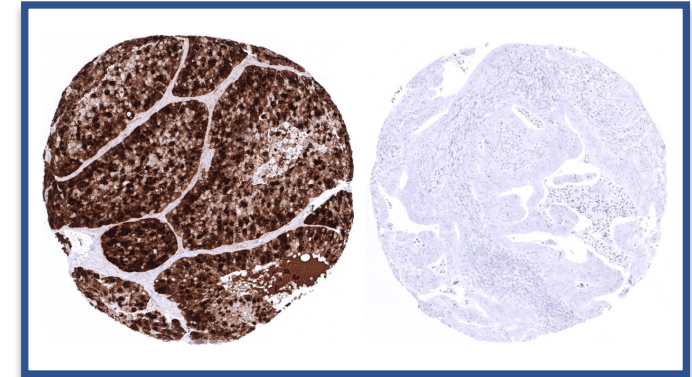
"Carboxypeptidase A1 (CPA1) Immunohistochemistry Is Highly Sensitive and Specific for Acinar Cell Carcinoma (ACC) of the Pancreas." Published by Uhlig R et al. in Am J Surg Pathol. 2022 Jan 1;46(1):97-104.

CPA1 (clone MSVA-601M) is a new marker for immunohistochemistry with very high sensitivity and specificity (>99%) for acinar cell carcinoma of the pancreas. A study on 15,680 tumors of >100 different tumor entities was recently published in the American Journal of Surgical Pathology.

Acinar cell carcinoma of the pancreas makes up for only 1-2% of pancreatic tumors but is misdiagnosed in a considerable fraction of cases. Based on the data by Uhlig et al, the use of MSVA-601M may markedly facilitate the distinction of this tumor entity.