Biomarker Datasheet

Human SOX10 U-VUE® Biomarker

SOX10 (Sry-related HMg-Box gene 10) is a nuclear transcription factor involved in differentiation of neural crest progenitor cells to melanocytes and maintenance of Schwann cells. Its high expression is observed in the melanocytic tumors of skin, soft tissue and primary as well as metastatic melanoma.

Overview

Target	Other names	Isotype	Primary cell type	Subcellular location	Positive control(s)
SOX10	DOM, WS2E, WS4	Mouse IgG1	Melanocytes	Nuclear	Normal Skin, Melanoma

*Clone available upon request

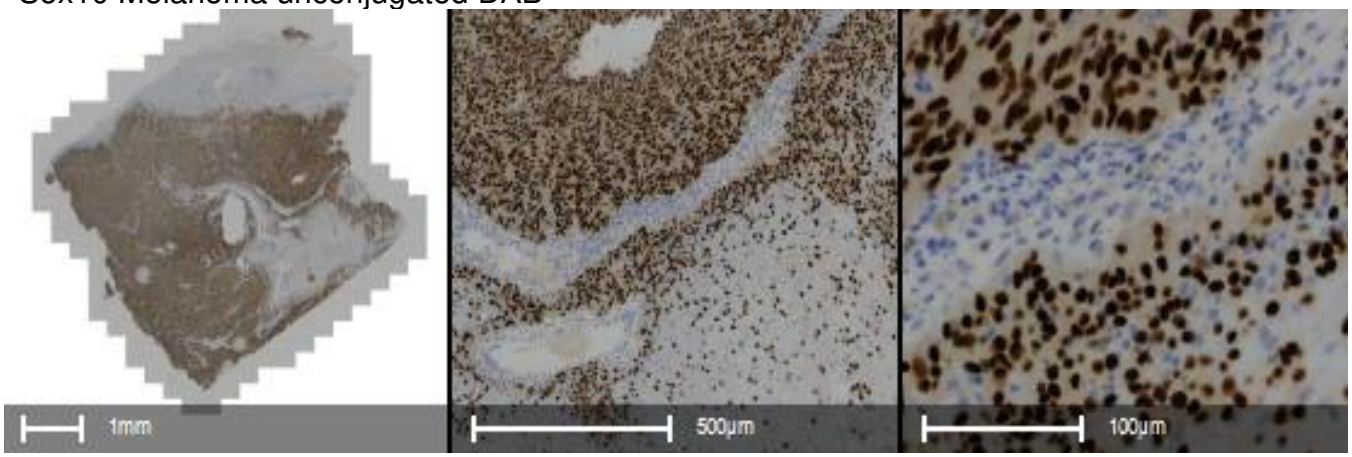
Quality Control

Each lot of antibody conjugate reagent is tested on positive control tissue and reviewed by reviewed by Ultivue's pathologists and scientists to ensure appropriate staining pattern and signal intensity by both qualitative and quantitative review.

Predicate Comparison

Serial sections of tonsil and tumor tissue controls were stained with traditional chromogenic DAB using unconjugated antibodies and with the InSituPlex® (ISP) monoplex assay to demonstrate concordance between staining modalities.

Sox10 Melanoma unconjugated DAB



Sox10 Melanoma ISP

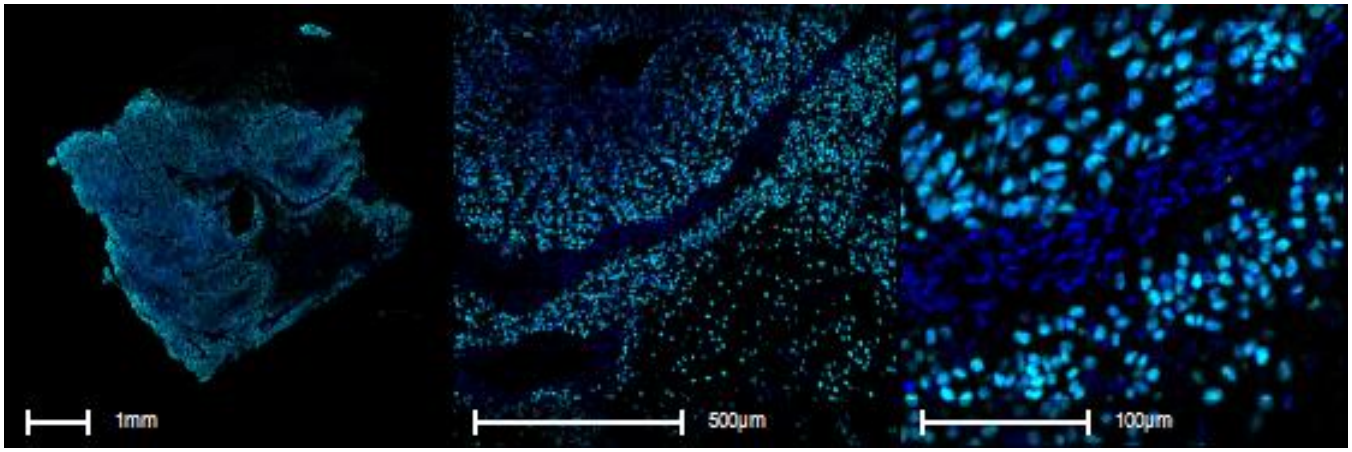


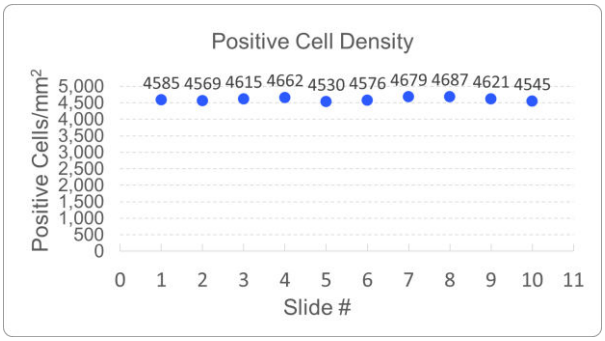
Figure 1: Comparison of unconjugated DAB and InSituPlex® monoplex assay in melanoma tissue. Chromogenic DAB (top panel), fluorescent ISP staining (bottom panel).

Assay Reproducibility

An InSituPlex® monoplex assay was performed across serial sections of melanoma tissue on the Leica BOND RX autostainer. Staining was found to be qualitatively and quantitatively equivalent across all slides in the run as demonstrated by coefficient of variance (CV) of positive cell density and signal intensity.

Sox10 in Melanoma

a



Sox10 in Melanoma

b

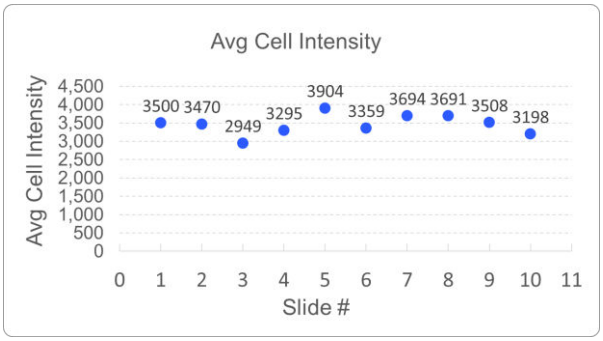


Figure 2: a. Number of positive cells/mm^2 per slide on melanoma tissue. Inter-slide coefficient of variance (CV) = 1.2% **b.** Mean positive signal intensity per slide on melanoma tissue. Inter-slide CV = 7.9%.

References

1. Beleaua, M. A., Jung, I., Braicu, C., Milutin, D., & Gurzu, S. (2021). SOX11, SOX10 and MITF Gene Interaction: A Possible Diagnostic Tool in Malignant Melanoma. Life (Basel, Switzerland), 11(4), 281. https://doi.org/10.3390/life11040281
2. Sejben, A., Vörös, A., Golan, A., Zombori, T., & Cserni, G. (2021). The Added Value of SOX10 Immunohistochemistry to Other Breast Markers in Identifying Cytokeratin 5-Positive Triple Negative Breast Cancers as of Mammary Origin. Pathobiology : journal of immunopathology, molecular and cellular biology, 88(3), 228–233. https://doi.org/10.1159/000512006
3. Szumera-Ciećkiewicz, A., Bosisio, F., Teterycz, P., Antoranz, A., Delogu, F., Koljenović, S., van de Wiel, B. A., Blokx, W., van Kempen, L. C., Rutkowski, P., Christopher van Akkooi, A., Cook, M., Massi, D., & EORTC Melanoma Group (2020). SOX10 is as specific as S100 protein in detecting metastases of melanoma in lymph nodes and is recommended for sentinel lymph node assessment. European journal of cancer (Oxford, England : 1990), 137, 175–182. https://doi.org/10.1016/j.ejca.2020.06.037