WHITEPAPER

Melanoma Markers: S100

BIOCARE MEDICAL

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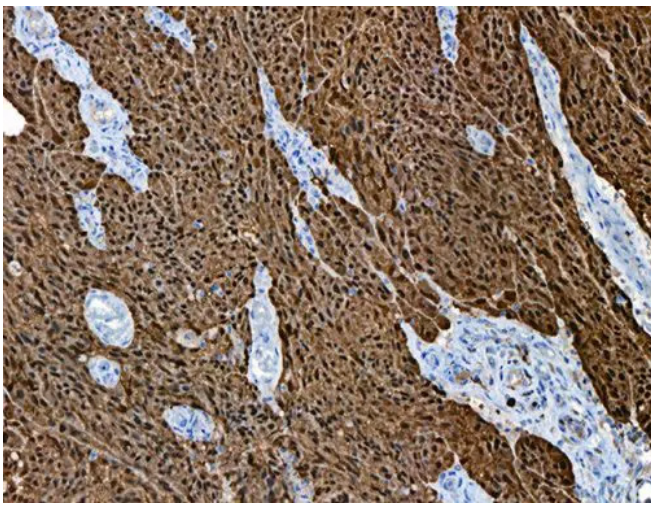
S100 is a widely used IHC marker in the detection and evaluation of melanoma, in addition to its diverse applications in other cancers such as breast cancer, brain cancer, and soft tissue tumors.[1,3,4]

S100 is present in the nucleus and cytoplasm of melanocytes, and studies have shown that S100's sensitivity for melanoma is >90% in FFPE sections, although it may be slightly lower in Mohs frozen sections.[5,7] However, while S100 has a high sensitivity for melanoma, it is less specific than other melanoma markers as it is also present in Schwann cells, adipocytes, chondrocytes, Langerhans cells, and myoepithelial cells, as well as tumors arising from these cell types.[2,6] Some studies have estimated S100's specificity for melanoma to be around 70-77%.[7] Due to this, it may be useful to combine S100 with other more specific markers, such as HMB45 and MART-1/Melan A.[2]

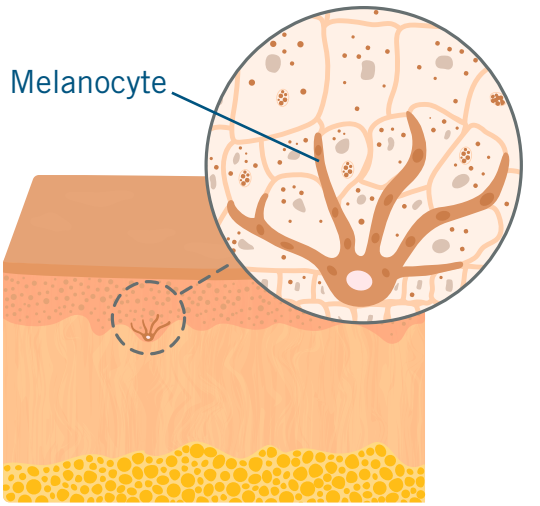
However, S100 has much higher sensitivity than any of the other aforementioned markers in desmoplastic malignant melanoma and therefore is highly useful in the evaluation of this particular variant of melanoma.[7] Desmoplastic melanoma (DM) is a rare form of melanoma that presents diagnostic challenges since can histologically mimic other types of cancer, including both benign and malignant nerve sheath tumors.[5] DM is also typically negative for other melanoma markers such as HMB45 and MART-1/Melan A.[5] S100, however, has been found to show more reliable IHC staining of DM cases.[5]

By incorporating complementary melanoma markers into their IHC staining menu, laboratories can leverage the advantages of their overlapping sensitivities and specificities to provide better patient care.

S100 Stains and Illustrations



Melanoma stained with S100 Protein [4C4.9] (M)



To learn more about Biocare's S100 antibody offerings, please visit our website at biocare.net or call our technical support team at 1-800-799-9499, Option 3.

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