Anti-Arginase-1-164Dy

Pathologist-Verified Clone for Imaging Mass Cytometry™

Catalog: 3164027D
Package size and concentration: 25 µg, 0.5 mg/mL
Storage: Store at 4 °C. Do not freeze.
Reactivity: Human, Rat, Mouse

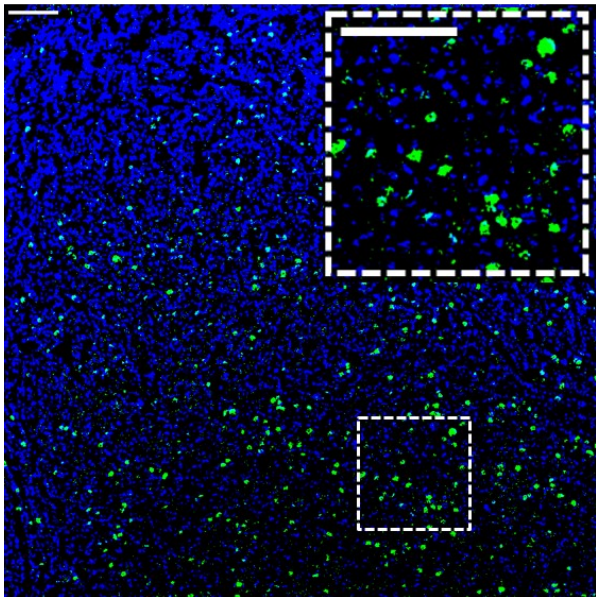
Clone: D4E3M
Isotype: Rabbit IgG
Formulation: Antibody stabilizer with 0.05% sodium azide
Application: IMC-Paraffin

Technical Information

Application: The metal-tagged antibody is designed and formulated for the application of Imaging Mass Cytometry (IMC™) using the Fluidigm Hyperion™ Imaging System on formalin-fixed, paraffin-embedded (FFPE) tissue sections.

Quality control: Each lot of conjugated antibody is quality control-tested by Imaging Mass Cytometry on tissue sections.

Recommended concentration: For optimal performance it is recommended that the antibody be titrated for the desired application. Suggested initial dilution range:
IMC-Paraffin: 1:25 to 1:100



Human hepatocellular carcinoma (FFPE) stained with 164Dy-anti-arginase-1 (D4E3M™) at a dilution of 1:50 (green pseudocolor) and iridium DNA intercalator (blue pseudocolor). Heat-mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. Scale bar size = 100 µm.

Description

Arginase-1 is a manganese-containing enzyme that belongs to the ureohydrolase family of enzymes. Arginase enzymes catalyze the fifth and final step in the urea cycle, a series of biochemical reactions in mammals during which the body disposes of harmful ammonia. Arginase-1 is located mainly in the cytoplasm of the liver. Besides its role in the hepatic urea cycle, Aginase-1 also has a key immunomodulatory function. In humans, arginase I is constitutively expressed in neutrophils and is released during inflammation. Myeloid cell arginase-mediated L-arginine depletion suppresses T cell responses, and this appears to be a fundamental mechanism of inflammation-induced immunosuppression. Clone D4E3M™ recognizes endogenous levels of total arginase-1 protein and does not cross-react with arginase-2.

References

Chang, Q. et al. "Staining of frozen and formalin-fixed, paraffin-embedded tissues with metal-labeled antibodies for imaging mass cytometry analysis." *Current Protocols in Cytometry* 82 (2017): 12.47.1–12.47.8.

Giesen, C. et al. "Highly multiplexed imaging of tumor tissues with subcellular resolution by mass cytometry." *Nature Methods* 11 (2014): 417–22.