Anti-Human/Mouse pStat3 [Y705]-158Gd

Pathologist-Verified Clone for Imaging Mass Cytometry™

Catalog: 3158030D
Package size and concentration: 25 µg, 0.5 mg/mL
Storage: Store at 4 °C. Do not freeze.
Reactivity: Human, Mouse

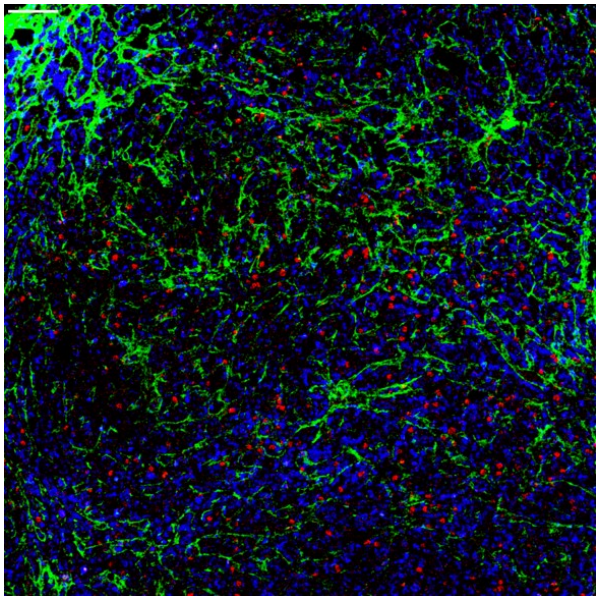
Clone: 4/P-STAT3
Isotype: Mouse IgG2a
Formulation: Antibody stabilizer with 0.05% sodium azide
Application: IMC-Paraffin

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 158Gd-anti-phospho-Stat3 [Y705] (4/P-STAT3) at a dilution of 1:50 (red pseudocolor), 169Tm-anti-collagen I (poly) (green pseudocolor), and 171Yb-anti-histone H3 (D1H2) (blue pseudocolor). Heat-mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. Scale bar size = 100 µm.

Description

Members of the signal transducer and activator of transcription (STAT) family are important intracellular messengers of cytokines and growth factor signaling. Seven mammalian STATs have been identified: STAT1–4, 5a, 5b and 6. STAT proteins are activated by tyrosine phosphorylation, which causes dimerization and translocation to the nucleus, where the STAT dimer acts as a transcription factor. JAK-mediated phosphorylation of Tyr705 on STAT3 occurs in response to many cytokines and growth factors including interferon-alpha, EGF, IL-5, IL-6, G-CSF and HGF. Activated STAT3 promotes transcription of genes that mediate cell growth and differentiation.

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.