**S1 Table. Panel biomarkers.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target** | **Panel** | **Disease type (Reference)** | **Phenotype** | **Clone****(Species, Isotype)** | **Vendor** | **Fluorochrome** |
| **ASPL-TFE-3 type 1 fusion protein** | sarcoma | ASPS (10, 11, 12) | sarcoma | Ms, IgG1 | Developmental Hybridoma Studies Cell Bank, University of Iowa | indirect |
| **TLE1** | sarcoma | Synovial sarcomaSpindle cell sarcoma Liposarcoma (15, 16) | Rb, EPR9386(2) | AbCam | indirect |
| **Pan-cytokeratin (CK)¥** | Carcinoma/Sarcoma | - |    Epithelial / Mesenchymal | C11(Ms, IgG1) | CST | AlexaFluor®555 |
| **Epithelial cell adhesion molecule (EpCAM)¥** | Carcinoma  | VU1D9(Ms, IgG1) | CST | AlexaFluor®555 |
| **β-catenin (β-cat)¥** | Carcinoma/Sarcoma | - | E247(Rb, IgG) | Epitomics | AlexaFluor®546 |
| **Vimentin** | Sarcoma | Sarcoma (20, 21) | V9(Ms, IgG1) | SCBT | AlexaFluor®647 |
| **CD45** | Carcinoma/Sarcoma | Exclusion marker (N/A) | Hematopoietic | F10-89-4(Ms, IgG2a) | AbD Serotec | AlexaFluor®647/488 |

Different markers used in the study including reagent information and associated disease types. Ms: mouse, Rb: rabbit; SCBT: Santa Cruz Biotechnology, CST: Cell Signaling Technology. ¥Refers to custom conjugated antibodies.