CLAIMS

1. A method for identifying the presence of mesenchymal precursor cells (MPCs) in a cell sample, the method comprising:

obtaining the cell sample from a tissue source;

contacting the cell sample with a HSP-90beta binding agent antibody or antigen-binding fragment thereof under conditions suitable for binding of HSP-90beta to the HSP-90beta binding agent antibody or antigen-binding fragment thereof; and

detecting the presence of the HSP-90beta binding agent antibody or antigen-binding fragment thereof bound to cells in the sample, in which the presence of MPCs is indicated by cells that bind to the HSP-90beta binding agent antibody or antigen-binding fragment thereof.

2. A method according to Claim 1, in which the cell sample is derived from placenta, adipose tissue, teeth, dental pulp, skin, liver, kidney, heart, retina, brain, hair follicles, intestine, lung, spleen, lymph node, thymus, ovary, pancreas, bone, ligament, bone marrow, tendon or skeletal muscle.

3. A method according to Claim 1, in which the HSP-90beta binding agent or antigen-binding fragment thereof is a STRO-4 monoclonal antibody produced by the hybridoma cell line deposited with the ATCC under deposit number PTA-9362.