CLAIMS

What is claimed is:

1. A method of assessing a purity of mesenchymal stem cells (MSCs) in a cell culture of MSCs and fibroblasts derived from a placenta-related tissue, comprising determining the percentage of cells expressing CD146 in the cell culture of MSCs and fibroblasts derived from a placenta-related tissue; wherein the purity of MSCs has a positive correlation with the percentage of cells expressing CD146, and the purity of MSCs is calculated by the equation shown below:

$Y = SX + I$, where Y is the purity (%) of MSCs, X is the percentage of cells expressing CD146, S is a value ranging from 1.129 to 1.283, and I is a value ranging from –28.676 to –17.964.

2. The method of claim 1, wherein the percentage of cells expressing CD146 is determined by a flow cytometry.