Supplemental Figure Legends.

Supplementary Figure 1. Examples of matching normal adjacent fascia. Sections from different patients are shown that stained negatively for MSC markers, CD90 (Left) and CD73 (Right), at 20X and 10X original magnifications.

Supplementary Figure 2. Example of the variable number of CD73$^+$ and CD34$^+$ cells detected in different DTs. CD73$^+$ and CD34$^+$ cells were counted at 4 representative high-powered fields (40X) using Image J software. The average number of positive cells per field is shown on the Y axis. DTs from FAP patients vs. sporadic DTs contained variable numbers of MSCs and CD34$^+$ fibrocytes, but these differences were not statistically significant.

Supplementary Figure 3. Cell morphology of desmoid-derived MSC line was polyploid. Morphological features of first passage cells cultured from a DT are shown at low (A), intermediate (B), and high (C) densities. Cells aligned at high density (white arrow) to form sites of extensive cell-cell contact denoting polarity. Clusters of cells at high density spontaneously differentiated into neuronal-like cells (D). Original magnification was 10X.

Supplementary Figure 4. DT-derived MSCs expressed TGFβ1, 2, 3, active β1 integrin, and displayed a prominent filamentous actin cytoskeleton. Fluorescent immunohistochemistry of DT-derived MSCs showed predominantly cell surface and cytoplasmic staining for TGFβ 1, 2, 3 (top, red), and the active form of β1 integrin (bottom, red) (A). Alexa Fluor 568-labeled phalloidin, which binds to F-actin, showed that DT-derived MSCs are characterized by a prominent cytoskeleton (B). Original
magnification for TGFβ 1, 2, 3 was 40X. Images for active β1 integrin and phalloidin were taken at 60X.