

Molecular signature of cancer stem cells isolated from prostate carcinoma and expression of stem markers in different Gleason grades and metastasis

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Prostate cancer (PCa) is the most frequently diagnosed malignancy in men worldwide.

Chemotherapy response is very poor and resistance to hormone-based treatments is frequent in advanced stages. Recently, tumor-initiating cells or cancer stem cells (CSCs) have been identified in several cancers, including PCa. These cells are thought to be responsible for therapy resistance, relapse and metastasis. In the present work, enriched populations of CSCs were obtained using a mixed procedure that included differential clone-forming ability, sphere growing induction (prostatospheres) and magnetic-associated cell sorting (MACS). Also, stem marker expression was determined in PCa biopsies of different histological grades and metastasis samples. The signature for stem markers of the isolated CSCs was CD133+/CD44+/ABCG2+/ CD24-. Expression of stem markers (CD133, CD44, and ABCG2) was higher in medium Gleason biopsies than in lower and higher grades, and lymph-node and bone metastasis samples. These