Abnova

Plastin-3 (PLS3) Monoclonal Antibody

Scientific Significance

Utilizing multiple epithelial cell-specific markers for the detection of circulating tumor cells (CTCs) in peripheral blood (PB) of patients shows the inadequacy of identifying CTCs undergoing epithelial-mesenchymal transition (EMT). Recent discovery has demonstrated Plastin-3 (PLS3) as a distinctive biomarker for EMT induced CTCs, thereby establishing a long-term prognosis method for patients diagnosed with highly invasive and metastatic cancer, especially for breast and colorectal cancer (CRC).

Epithelial-Mesenchymal Transition Monoclonal Antibody

Anti-human Plastin-3 monoclonal antibody

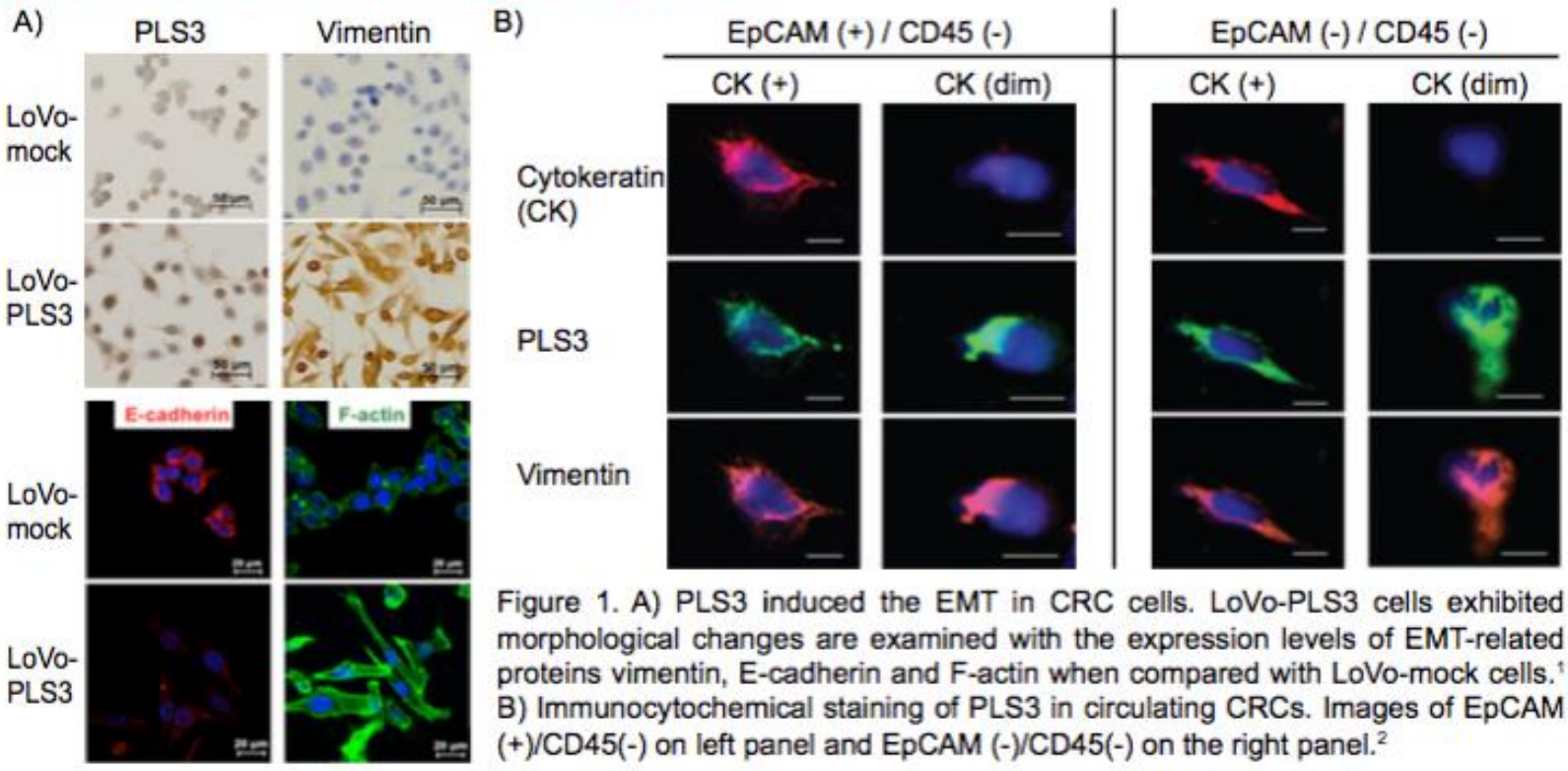

Figure 1. A) PLS3 induced the EMT in CRC cells. LoVo-PLS3 cells exhibited morphological changes are examined with the expression levels of EMT-related proteins vimentin, E-cadherin and F-actin when compared with LoVo-mock cells.[1] B) Immunocytochemical staining of PLS3 in circulating CRCs. Images of EpCAM (+)/CD45(-) on left panel and EpCAM (-)/CD45(-) on the right panel.[2]

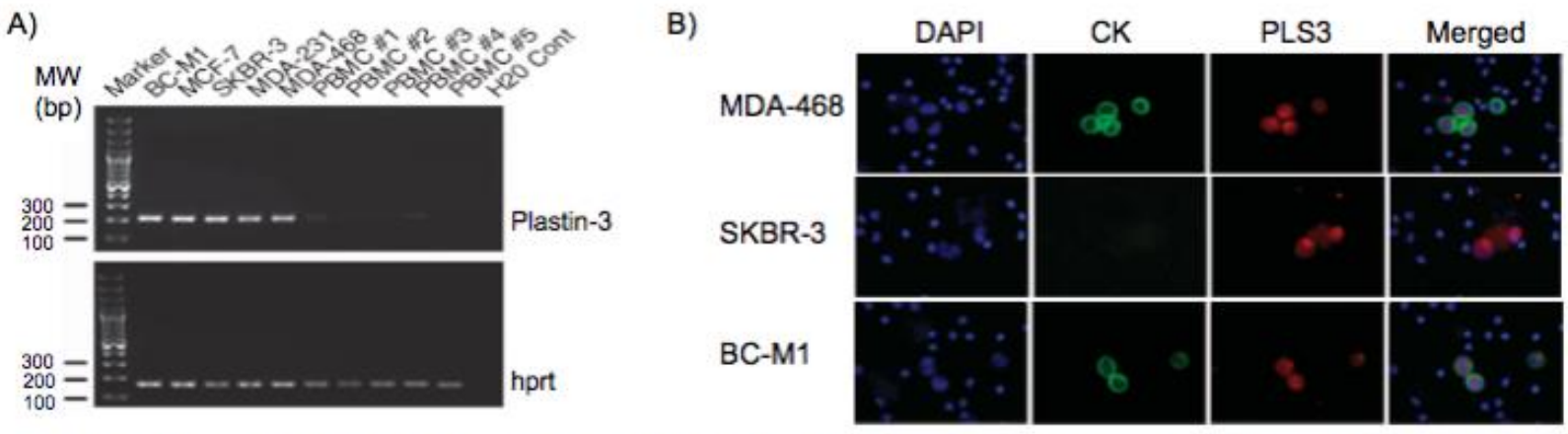

Figure 2. A) Comparison of PLS3 gene expression between breast cancer cell lines and PBMCs of 5 different healthy control individuals with the house keeping gene, hprt, shows at the bottom panel.[3] B) Immunocytochemical double staining comparing the PLS3 expression in various breast cancer cell lines.[3]

	PLS3 negative n=532 (%)	PLS3 positive n=179 (%)
Lymph node metastasis		
-	335 (63.0%)	84 (46.9%)
+	197 (37.0%)	95 (53.1%)
Liver metastasis		
-	497 (93.4%)	153 (85.5%)
+	35 (6.6%)	26 (14.5%)
Adjuvant chemotherapy (n=628)		
-	322 (66.3%)	72 (50.7%)
+	164 (33.7%)	70 (49.3%)
Recurrence (n=628)		
-	411 (85.3%)	74 (50.7%)
+	71 (14.7%)	72 (49.3%)

Table 1. Relationship between PB PLS3 expression and clinicopathologic factors in CRC patients. Significant data presented above have $p<0.05$.[2]

	PLS3 negative n=205 (%)	PLS3 positive n=389 (%)
HER2/neu expression		
0 to 2+	125 (30.2%)	289 (69.8%)
3+	35 (44.9%)	43 (55.1%)
Anti-hormone therapy		
-	55 (27.6%)	144 (72.4%)
+	150 (38.0%)	245 (62.0%)
Recurrence		
Bone metastasis	5 (35.7%)	9 (64.3%)
Lung metastasis	3 (18.8%)	13 (81.3%)
Local metastasis	2 (18.2%)	9 (81.8%)
Liver metastasis	1 (10.0%)	9 (90.0%)
Others	2 (6.7%)	28 (93.3%)

Table 2. Relationship between PB PLS3 expression and clinicopathologic factors in breast cancer patients. Significant data presented above have $p<0.05$.[3]