[44] ***Figure 15A-15D*** depict arrays showing two up-regulated (≥2 fold), cancer related genes detected in neutrophils from B16F10 (mouse metastatic melanoma) tumor bearing C57/Bl mice. (A) B16F10 tumor. (B) Neutrophils obtained from C57/Bl mice bearing B16F10 tumors (N_T). (C) T cells obtained from C57/Bl mice-bearing B16F10 tumors (T_T). (D) Neutrophils obtained from non-tumor-bearing C57/Bl mice (N_N). Circled signatures expressed in tumor cells (A) and in neutrophils from tumor-bearing mice (B), and minimally expressed in neutrophils from non-tumor-bearing mice (D), and in non-phagocytic T cells (C). Expression in N_T was ≥2-fold than that in N_N and T_T.

[45] ***Figure 16A-16D*** depict arrays showing one up-regulated (≥2 fold), cancer related genes detected in macrophages from B16F10 (mouse metastatic melanoma) tumor-bearing C57/Bl mice. (A) B16F10 tumor. (B) Macrophages obtained from C57/Bl mice bearing B16F10 tumors (M_T). (C) T cells obtained from C57/Bl mice bearing B16F10 tumors (T_T). (D: Macrophages obtained from non-tumor-bearing C57/Bl mice (M_N). Circled signatures expressed in tumor cells (A) and in macrophages from tumor-bearing mice (B), and minimally expressed in macrophages from non-tumor-bearing mice (D), and in non-phagocytic T cells (C). Expression in M_T was ≥2-fold than that in M_N and T_T.

[46] ***Figure 17A-17D*** depict arrays showing five up-regulated (≥2 fold), cancer related genes detected in neutrophils from patient with head and neck cancer (squamous cell carcinoma). (A) Normal tissue (skin) biopsy. (B) Tumor tissue biopsy. (C) Neutrophils obtained from patient blood (N_T). (D) T cells obtained from patient blood (T_T). Circled signatures expressed in tumor cells (B) and in neutrophils from patient blood (C), and minimally expressed or not expressed in normal skin (A) or non-phagocytic T cells (D). Expression in N_T was ≥2-fold than that in T_T and skin.

[47] ***Figure 18A-18D*** depict arrays showing 23 up-regulated (≥2 fold), cancer related genes detected in macrophages from patient with ovarian cancer (adenocarcinoma). (A) Macrophages obtained from patient blood (M_T). (B) T cells obtained from patient blood (T_T). Circled signatures expressed in macrophages from patient (A) and minimally expressed in non-phagocytic T cells (B). Expression in M_T was ≥2-fold than that in T_T.

[48] ***Figure 19*** depicts a method used to identify tumor signatures in phagocytic cells. In this example, expression intensities of cancer associated genes in macrophages from tumor-bearing animals (M_T) were quantified compared to those from T cells from the same animals (T_T) and those overexpressed by >2-fold identified. Next, the intensities of all expressed genes in M_T were quantified and compared to those in macrophages obtained from non-tumor bearing animals (M_{NT}) and the genes overexpressed >2-fold were identified. The genes common to both lists were selected and compared to those expressed by the same tumor (shaded area).

[49] ***Figures 20A-20B*** depict gene expression intensity comparisons in (A) macrophages obtained from nude mice bearing LNCaP human prostate tumors (M_{LNCaP}) and T cells from the same animals (T $cells_{LNCaP}$), (B) M_{LNCaP} and macrophages obtained from non-tumor-bearing mice ($M_{non\text{-}tumor}$), (C) neutrophils obtained from nude mice bearing LNCaP human prostate tumors (N_{LNCaP}) and T cells from the same animals (T $cells_{LNCaP}$), and (D) N_{LNCaP} and macrophages obtained from non-tumor-bearing mice ($N_{non\text{-}tumor}$). Genes in red were overexpressed >2 fold; those in green were under-expressed >2 fold.

[50] ***Figure 21*** lists expression of cancer-related genes within phagocytic neutrophils (N) and macrophages (M).

[51] ***Figure 22*** lists cancer-related genes upregulated (>2-fold) in phagocytic macrophages of a patient with ovarian cancer in comparison to non-phagocytic T cells.

[52] ***Figure 23*** depicts SDS gel (10%) electrophoresis of protein sample (5.9 μg) obtained from mouse WBC.

[53] ***Figure 24*** depicts Western blot analysis of TAG-72 and PSA expression in T cells and monocytes/macrophages (M/M) obtained from tumor-bearing mice, illustrating the presence of signatures in phagocytic cells only.

DETAILED DESCRIPTION OF CERTAIN EMBODIMENTS

[54] Embodiments of the present invention are directed to a method of providing a patient-specific expression profile of markers associated with diseases, infectious agents and

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