Supplementary Figure 4. Boxplots and dotplots of age-related DEGs between patients with and without metastasis.

CD24 (CD24 antigen) and *SFRP4* (Secreted Frizzled Related Protein 4) are among the 36 genes for iPAM classifier. Gene expression data for 687 patients from four validation data sets (MC II, CC, TJU, MSK) were used to generate plots. Among young patients (≤ 55 years), significantly increased median expression levels for CD24 gene (A) and SFRP4 (B) were observed in patients with metastasis (black) compared to patients without metastasis (blue) (Benjamini-Hochberg adjusted $p < 0.05$); however, there was no significant median expression difference related to metastasis status among patients older than 70 years (red and green) ($p > 0.16$). The gene expression difference related to metastasis status was significant among patients with age between 56 and 70 years (Benjamini-Hochberg adjusted $p < 0.05$), but a smaller median difference was observed compared to young patients (≤ 55).