Research into the cellular, genetic and molecular basis of cancer holds great promise for advancing personalized diagnostics and therapeutics. In particular, the characterization and quantification of circulating tumor cells (CTCs) has been demonstrated to be valuable in the management of cancer.\textsuperscript{1,2,3} CTCs are shed into the bloodstream by in situ neoplasms. CTCs are the mechanism by which cancer metastasizes to distant sites in the body, and thus tracking them has the potential to radically alter patient treatment and outcome.\textsuperscript{4} Several areas have been suggested as being of interest to advancing cancer care using CTCs: using CTCs for early detection of potential metastasis, determining and monitoring the efficacy of individualized treatment regimens, and predicting site-specific metastasis.\textsuperscript{5} Today, many efforts continue to define, detect, isolate, and enumerate CTCs in peripheral blood. Identifying these rare cells in the blood can help detect early tumor dissemination & metastasis. However, isolating CTCs in the early stages of cancer, or in precancerous lesions, has been a particularly difficult challenge.\textsuperscript{6,7,8}

Several recent clinical studies, including at least one 3000-patient meta-analysis, confirm that CTC detection is highly correlated with poor cancer prognosis. Early detection of recurrence has been shown to significantly improve overall survival.\textsuperscript{9} Studies show that patients with asymptomatic recurrence (over symptomatic recurrence) have better overall prognosis.\textsuperscript{10,11} CTCs are present in the blood at early stages of cancer inception and recurrence and have been shown to disseminate systemically from ductal carcinoma in situ in women and in premalignant stages of pancreatic cancer tumor progression.\textsuperscript{12,13,14} Studies have demonstrated CTCs can play an important role as an adjunct to imaging demonstrating that rising CTC levels can occur before imaging is able to detect a possible change in patient status.\textsuperscript{15}

Identifying, isolating and enumerating CTCs in peripheral blood of patients is an important new tool to in cancer prevention and management. The CellMax Life\textsuperscript{®} tests provide physicians an additional marker to guide their clinical judgement with regard to both healthy individuals and colorectal cancer patients and are a vital tool in better identification, prevention and management of cancer.\textsuperscript{16}
Circulating Tumor Cells: A Review

REFERENCES

8. Public domain image, National Cancer Institute, USA