NEWS RELEASE

New Gene Expression Profile Test Used in Combination with Sentinel Lymph Node Biopsy Improves Prediction of Metastasis and Death in Patients with Head and Neck Melanoma

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New test also provides clinically significant prognostic information independent of sentinel lymph node status

Friendswood, TX – April 2, 2015 – Castle Biosciences, Inc., a provider of molecular diagnostics to improve cancer treatment, today announced study results demonstrating that its DecisionDx-Melanoma™ gene expression profile (GEP) test significantly improved the prognostic value of sentinel lymph node biopsy (SLNB)—a standard predictive method—in identifying patients with cutaneous melanomas of the head and neck at high risk of their cancer spreading. The data were presented last week at the Society of Surgical Oncology (SSO) Annual Cancer Symposium.

The study,"Gene Expression Profile (GEP) Enhances Prognostic Value of Sentinel Lymph Node Biopsy (SLNB) in a Cohort of Patients with Head and Neck Melanoma" (poster #239), evaluated the prognostic capabilities of the GEP test independently, and in combination with SLNB, in a cohort of 98 patients with primary cutaneous melanoma tumors of the face, scalp, ear and neck who had undergone a documented SLNB procedure. The goal was to determine whether patients would have a low risk of metastasis (Class 1) or a high risk of metastasis (Class 2). Endpoints for the study were disease-free survival (DFS), distant metastasis-free survival (DMFS) and overall survival (OS) over five years.

The study results demonstrated that the GEP enhances the prognostic capability of SLNB when the tests are used together. Specifically, researchers found that:

• Patients identified by SLNB alone had a 5-year DFS of 50% for low risk SLNB negative status and 27% for high risk SLNB positive status patients (p<0.0001). The GEP test alone showed 5-year DFS of 75% for low risk Class 1 and 20% for high risk Class 2 patients (p<0.0001). Combining GEP Class and SLNB status improved the accuracy of SLNB.

- Specifically, 5-year DFS for Class 1/SLNB negative patients was 76%, Class 2/SLNB negative patients was 23% and Class 2/SLNB positive patients was 19%. The Class 1/SLNB positive patients had a 5-year DFS of 67%, but this data is limited as only 5 of the 98 patients studied fell into this group (p<0.0001).

• The 5-year DMFS endpoint showed similar comparisons. Specifically, DMFS for SLNB alone was 62% for SLNB negative and 40% for SLNB positive patients (p<0.004). GEP alone showed a DMFS of 82% for Class 1 and 36% for Class 2 (p<0.0001). Combining GEP Class and SLNB status improved the accuracy of SLNB.

- Specifically, 5-year DMFS for Class 1/SLNB negative patients was 82%, for Class 2/SLNB negative patients was 41% and for Class 2/SLNB positive patients was 29%. The Class 1/SLNB positive patients had a 5-year DMFS of 80%, but this data is limited as only 5 of the 98 patients studied fell into this group (p<0.0001).

• GEP alone identified 33 of 41 (80%) patients who experienced distant metastasis as high risk. Of the SLNB negative patients, the GEP test identified 18 of 25 (72%) patients who experienced a distant metastasis as high risk.

“Our study suggests that utilizing the GEP test in conjunction with SLNB may provide a significant improvement in prognostic utility over either test alone, and therefore improve the quality of the information we can use as physicians to make the best possible treatment decisions,” said David H. Lawson, M.D., Professor of Hematology and Medical Oncology, Winship Cancer Institute of Emory University, Atlanta, GA. “Given the fact that higher rates of false negative outcomes are found in SLN-negative head and neck tumors compared to other regions, improved prognostic accuracy is particularly important for these patients.”

The study also found that GEP testing of SLNB-eligible patients provided similar differences in overall survival. Multivariate analyses showed GEP to be independent of and stronger than SLNB alone (GEP and SLNB hazard ratio for DFS = 4.7 and 2.1, DMFS = 4.5 and 1.8; and OS = 12.9 and 2.0, respectively. P-value for GEP <0.0002 for all endpoints. SLNB = 0.01 for DFS, 0.07 for DMFS, and 0.05 for OS).

Multivariate analyses were also conducted with the inclusion of ulceration status. Using these three variables, GEP was the only significant factor (p<0.0004 for DFS, DMFS and OS). Hazard ratios for DFS were 6.5, 1.8 and 1.0 for GEP, SLNB and ulceration, respectively; DMFS were 6.2, 1.4 and 1.3 for GEP, SLNB and ulceration, respectively; and OS were 34.8, 2.0 and 0.9 for GEP, SLNB and ulceration, respectively.

Separately, preliminary results from an ongoing prospective study assessing the prognostic accuracy of the GEP test

compared to SNLB in primary melanoma were also presented at the meeting. Eddy C. Hsueh, M.D., Professor and Director, Division of Surgical Oncology, St. Louis University Hospital was lead author for the study of 78 melanoma patients undergoing SLNB at St. Louis University Hospital, St. Louis, MO, between November 2013 and September 2014. The patients also underwent the GEP test at their initial evaluation, and were followed at regular intervals. Results thus far indicate that the GEP test is significantly correlated with early disease recurrence in primary melanoma. Five of the patients experienced disease recurrence within six months of surgery. All of these patients were deemed high risk by the GEP test, while only one of the five was identified as such by SLNB. While these are early results from an ongoing study, the data thus far are consistent with results seen in previous clinical validation studies.

“With regard to the value of our GEP test in improving prognostic accuracy in melanoma, the evidence simply speaks for itself,” said Derek Maetzold, President and CEO, Castle Biosciences, the developer of the test. “Our goal is to ensure that physicians have the most accurate information possible to best inform their clinical decision making, especially when it comes to a complex and often difficult to treat disease such as melanoma.”

About DecisionDx-Melanoma

The GEP test, known as DecisionDx-Melanoma, is a noninvasive test developed to identify high risk disease regardless of other diagnostic tests, such as AJCC stage and SLNB status. Using tissue from the primary melanoma, the DecisionDx-Melanoma test measures the expression of 31 genes and stratifies patients as either low risk Class 1 or high risk Class 2. The test has been used to analyze archived tumor samples from more than 600 melanoma patients in prospectively designed archival tissue studies. The initial clinical validation of the test was published in January in Clinical Cancer Research. The second validation study was published in March 2015 in the Journal of the American Academy of Dermatology. More information about the test and disease can be found at www.skinmelanoma.com.

About Melanoma

Cutaneous melanoma is diagnosed in approximately 76,000 people in the U.S. each year, according to the American Cancer Society. Seventy-five percent are diagnosed as Stage I or II, meaning there is no evidence of the melanoma spreading beyond the primary tumor. It is not the most prevalent form of skin cancer, but it is the most aggressive. Unlike other more common skin malignancies such as basal cell and squamous cell carcinomas, melanoma often spreads to other parts of the body, either via the lymphatic or blood system, resulting in cancers of distant organs including the brain or lungs. So, while it represents just 4% of skin cancers, melanoma accounts for about 80% of skin cancer-related deaths.

About Castle Biosciences

Castle Biosciences is a molecular diagnostics company dedicated to helping patients and their physicians make the

best possible decisions about their treatment and follow-up care based on the individual molecular signature of their tumor. The Company currently offers tests for patients with uveal melanoma, cutaneous melanoma and esophageal cancer, among others. Castle Biosciences is based in Friendswood, TX (Houston), and has laboratory operations in Phoenix, AZ. More information can be found at www.castlebiosciences.com.

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