



FOR IMMEDIATE RELEASE

**STUDIES SHOW CRESCENDO BIOSCIENCE'S VECTRA™ DA CAN TRACK EARLY RESPONSE TO RHEUMATOID ARTHRITIS THERAPY AND PREDICT JOINT DAMAGE AT THE MOLECULAR LEVEL**

*– Data presented at EULAR Annual European Congress of Rheumatology –*

**LONDON** – (May 25, 2011) – [Crescendo Bioscience™](#) today announced data indicating that [Vectra™ DA](#), a first-in-class multi-biomarker blood test used to assess rheumatoid arthritis (RA) disease activity, provides physicians with an objective measure which may help determine whether patients are responding to therapy. Additional studies show that the score from the Vectra DA algorithm has the potential to predict progressive joint damage and is robust in RA patients who have common comorbid conditions. Two additional studies confirmed Vectra DA algorithm's ability to quantify RA disease activity including the ability to discriminate between low disease activity and remission. These data were presented at the [European League Against Rheumatism's \(EULAR\) Annual European Congress of Rheumatology](#) in London, May 25 – 28, 2011. Additional studies of pipeline products were also presented, including work to develop a multi-biomarker test for risk of structural damage in RA.

"These data indicate that Vectra DA can provide physicians with a robust molecular monitoring system for RA disease activity," said [Stephen Paget, M.D.](#), Physician-in-Chief Emeritus, Hospital for Special Surgery. "Vectra DA may help physicians determine whether a patient is responding to therapy, perhaps as early as two weeks after initiating treatment, and whether additional intervention may be necessary."

RA is a debilitating, highly variable, chronic disease that often results in joint damage and disability. Vectra DA is the first multi-biomarker blood test to assess RA disease activity, integrating information from 12 key biomarkers with a proven association with RA disease activity into a single quantitative score.

"The underlying biology of RA can vary greatly among patients and often changes over time," said [David Chernoff, MD](#), Chief Medical Officer of Crescendo Bioscience. "These data further validate Vectra DA's broad utility in providing physicians with quantitative information on RA disease activity and underlying biology. Vectra DA provides a tool to help personalize patient management."

**Overview of Vectra DA Algorithm Data**

**[Use of a Multi-Biomarker Score for Rheumatoid Arthritis Disease Activity \(Vectra™ DA\) to Assess Response to Therapy](#)** (Poster Session I: May 26, 2011, 11:45 BST)

*– more –*

Patients from the Brigham and Women's Rheumatoid Arthritis Sequential Study (BRASS) diagnosed with RA received methotrexate (MTX) or anti-TNF therapy with MTX, based on their physician's recommendation. Changes in the Vectra DA algorithm score occurred as early as two weeks after initiating therapy and were significantly associated with subsequent clinical responses ( $p=0.01$ ).

**[A Multi-Biomarker Algorithm for RA Disease Activity \(Vectra™ DA\) Predicts Radiographic Progression in the BeSt Study](#)** (Poster Session I: May 26, 2011, 11:45 BST)

Researchers analyzed blood samples from baseline and year one of 124 patients from the Behandel Strategieën (BeSt) clinical study to determine whether, in addition to its validated use to assess and track disease activity, the Vectra DA algorithm could help predict progressive joint damage. Disease activity is a significant risk factor for joint damage.

The Vectra DA algorithm score was significantly associated with joint damage progression, ( $p < 0.001$ ). In a multivariate regression analysis including other disease activity measurements, only the Vectra DA algorithm score was a significant predictor of the second year change in Van der Heijde Sharp Score, a common radiographic scoring method used to assess joint damage in RA ( $p < 0.05$ ). The results suggest that the combination of biomarkers in the Vectra DA algorithm reflects the underlying disease processes.

**[Robustness of a Novel Multi-Biomarker Score for RA Disease Activity \(Vectra™ DA\) Across a Spectrum of Co-Morbidities and Smoking Status](#)** (Poster Session II: May 27, 2011, 11:45 BST)

This study selected 512 subjects from the InFoRM Study, a geographically diverse North American cohort, and assessed whether comorbid conditions affected disease activity measures. The study found that common comorbid conditions had no significant impact on the Vectra DA algorithm score. In an exploratory analysis of patients with fibromyalgia, the Vectra DA algorithm score had greater observed stability than the other common disease activity measures DAS28, CDAI and CRP.

**[A Multi-Biomarker Based Disease Activity \(MBDA\) Score System Compared to a Conventional Disease Activity Score \(DAS\) System in the BeSt Rheumatoid Arthritis \(RA\) Study](#)** (Poster Session III: May 28, 2011, 10:15 BST)

Blood samples were analyzed from 124 RA patients at 180 visits in the BeSt study. The Vectra DA algorithm score was significantly correlated with three standard clinical disease activity scores (DAS, DAS28 and DAS28CRP;  $p < 0.001$  in all cases). In addition, change in the Vectra DA algorithm score was significantly correlated with change in DAS28 between baseline and 1 year study visits, indicating that the Vectra DA algorithm can track changes in disease activity over time.

**[Biomarker Signatures in Rheumatoid Arthritis Patients with Low Disease Activity: The REMIRA Study](#)** (Poster Session III: May 28, 2011, 10:15 BST)

Blood samples from the UK based REMIRA (Remission in RA) study acquired at baseline from 70 RA patients on stable therapy with less than 10 years of disease and DAS28 of less than 3.2

were examined to determine whether Vectra DA could differentiate between low disease activity and remission. Multiple definitions of remission were assessed, including those for standard clinical disease activity scores (DAS28, CDAI, SDAI) and the new American College of Rheumatology (ACR)/EULAR criteria.

A statistically significant ( $p < 0.01$  in all cases) association was observed between the Vectra DA algorithm score and the current clinical standards for evaluating RA remission vs. non-remission.

### **Overview of Multi-Biomarker Structural Damage Test Data**

#### **[Development of A Multi-Biomarker Algorithm to Predict RA Structural Damage in the Leiden Early Arthritis Cohort](#)** (Poster Session II: May 27, 2011, 11:45 BST)

Researchers evaluated both individual biomarkers and prototype multi-biomarker models to predict the risk and degree of joint damage in an individual patient over 12 months. Biomarker concentrations were determined in 307 blood samples from 187 patients in the Leiden Early Arthritis Cohort, a Dutch population-based cohort.

The study found that biomarker combinations had higher observed performance than conventional clinical measures at predicting progressive structural damage in RA. A multi-biomarker test, if validated, has the potential to better predict structural damage in clinical practice.

### **About Rheumatoid Arthritis**

Rheumatoid arthritis is a debilitating, highly variable, chronic disease affecting approximately 1.5 million Americans and more than 2 million people in Europe. The primary symptoms of RA are joint inflammation, pain, and fatigue, with the disease often resulting in joint damage and disability. RA is a systemic disease and can significantly damage other parts of the body as well, resulting in infection, osteoporosis and cardiovascular disease, a leading cause of death for RA patients. Early and accurate detection of RA, followed with frequent monitoring and responsive therapeutic adjustments, is critical to improving clinical outcomes.

### **About Vectra™ DA**

Vectra DA is the first multi-biomarker blood test for RA disease activity. It allows physicians to go beyond signs and symptoms for deeper insights into disease biology that can complement clinical assessments and routine laboratory tests. Vectra DA integrates information from 12 key biomarkers that have consistently been shown to be associated with RA disease activity into a single quantitative score. Vectra DA serves as a baseline assessment of disease activity and a tool to track subsequent changes.

Vectra DA is validated for use in adults diagnosed with RA. Test results are intended to aid in the assessment of disease activity in RA patients when used in conjunction with standard clinical assessment. This test is not intended or validated to diagnose RA. Vectra DA is available in 49 states in the U.S. (laboratory licensure has been applied for in New York state). Vectra DA is not

currently marketed outside of the U.S. For more information on Vectra DA, please visit, [www.Vectra-DA.com](http://www.Vectra-DA.com).

**About Crescendo Bioscience, Inc.**

Crescendo Bioscience is a molecular diagnostics company focused in rheumatology and located in South San Francisco, CA. Crescendo Bioscience develops quantitative, objective, biology-based tests to provide rheumatologists with deeper clinical insights to help enable more effective management of patients with autoimmune and inflammatory diseases. For more information, please visit the company's website at [www.CrescendoBio.com](http://www.CrescendoBio.com).

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