



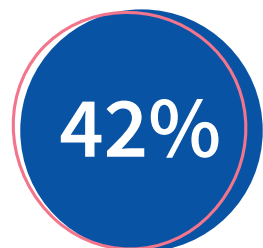
A HEALTHCARE PROVIDER'S GUIDE

Vectra[®] by Labcorp Guided Care

Evaluate success of controlling rheumatoid arthritis inflammation by using Vectra at initiation, change in drug therapy, and repeating to monitor response to therapy.



Vectra[®] by Labcorp Can Help Guide Personalized Medical Management Decisions to Improve Patient Outcomes



of patients thought to be in low or moderate disease activity by traditional disease activity measure were in high disease activity measured by Vectra and thus were at risk for joint damage progression.

In a combined analysis of patients from three studies, 42% of those with low or moderate disease activity by DAS28-CRP had a high Vectra Score¹

Vectra Guided Care provides quantitative personalized insight to help guide disease management plan:



Vectra is a **validated prognostic test** for radiographic progression²



Provides scores ranging from 1 to 100 to categorize RA disease activity into low, moderate or high to **help guide medical management**



The Vectra Score Interpretation found on the report **provides guidance to physicians**



Changes in the Vectra Score of 8 or more in high and moderate patients represent a meaningful change in RA inflammation

The benefits of using Vectra in your office



Objective Insight into Inflammation

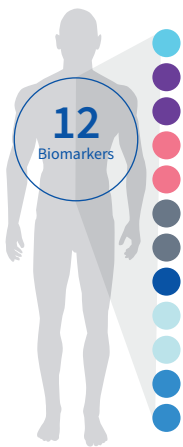


Improved Efficiency



Patient Affordability

Vectra® Provides Molecular Insights on the Inflammatory State of RA That Can Help Inform Your Medical Management Decisions



Vectra® by **labcorp**

- Vectra measures 12 biomarkers and combines them into a single score thus allowing providers to incorporate molecular insight from various inflammatory pathways driving RA disease activity
- Vectra incorporates information on age, gender and adiposity to provide a score that reflects a patient's personalized disease activity and inflammation level
- Vectra is an unsurpassed predictor of radiographic progression compared to CDAI, SDAI, DAS28-CRP and CRP

Vectra is a molecular measurement of disease activity and RA inflammation

Adhesion Molecules	Growth Factors	Cytokines/Receptors	Matrix Metalloproteinases	Skeletal-Related Proteins	Hormones	Acute-Phase Proteins
VCAM-1	EGF	IL-6	MMP-1	YKL-40	Leptin	SAA
	VEGF-A	TNF-RI	MMP-3		Resistin	CRP

Vectra by labcorp SAMPLE

PATIENT: Jane Doe DOB: 02/15/1978 PATIENT ID: 000-000-0000 GENDER: Female

Individual Biomarker Results

TYPE	REFERENCE	RESULT (UNITS)	IN RANGE	ALTERNATE UNIT
ACUTE PHASE PROTEIN	mg/L	0.8 (mg/L)	0.4 to 1.0	mg/dL
ADIPONECTIN	µg/mL	0.82 (µg/mL)	0.75 to 1.2	µg/dL
CYTOKINE RELATED FACTORS				
ADIPONIN	pg/mL			
IL-6	pg/mL			
TNF-RI	pg/mL			
VEGF-A	pg/mL			
VEGF-B	pg/mL			
VEGF-C	pg/mL			
VEGF-D	pg/mL			
VEGF-E	pg/mL			
VEGF-F	pg/mL			
VEGF-G	pg/mL			
VEGF-H	pg/mL			
VEGF-I	pg/mL			
VEGF-K	pg/mL			
VEGF-L	pg/mL			
VEGF-M	pg/mL			
VEGF-N	pg/mL			
VEGF-O	pg/mL			
VEGF-P	pg/mL			
VEGF-Q	pg/mL			
VEGF-R	pg/mL			
VEGF-S	pg/mL			
VEGF-T	pg/mL			
VEGF-U	pg/mL			
VEGF-V	pg/mL			
VEGF-W	pg/mL			
VEGF-X	pg/mL			
VEGF-Y	pg/mL			
VEGF-Z	pg/mL			

Complete Vectra Score Hist

COLLECTED ON	SCORE
02/15/2020	65
05/15/2020	65
08/15/2020	65
11/15/2020	65
02/15/2021	72

Comments

Vectra by labcorp SAMPLE

ORDERING PHYSICIAN: Physician Name, MD

RECEIVING HEALTHCARE PROVIDER: 1234 Main Street, Anytown, CA 12345, Phone: 555-555-1234 / Fax: 555-555-1234

EXPERIMENT: Collection Date: 05/14/2020, Receipt Date: 05/25/2020, Report Date: 05/28/2020

PATIENT: Jane Doe, Date of Birth: 02/15/1978, Patient ID: 000-000-0000, Gender: Female, TPO ID: 00000000-00

Vectra Molecular Result

Vectra Score: 72 (High) (vs 100)

Risk of Radiographic Progression: 20% (1 Year Risk of Radiographic Progression)

Change in Score: ↑ (Meaningful Increase in 10 Units)

Vectra Score Interpretation: Patient has a high Vectra Score that increased by 8 or more units from the previous score, which was also in the high category. Patient has a high risk for radiographic progression. Consider adjusting treatment regimen to reduce inflammation and slowing of the structural damage.

VECTRA SCORE DESCRIPTION

Vectra Disease Activity Levels: Low: 1 to 24, Moderate: 25 to 44, High: 45 to 100

Vectra Score measures the concentration of 12 serum proteins. An algorithm is applied to these concentrations to calculate a disease activity score on a scale of 1 to 100. The Vectra Score is personalized based on the age, gender, and adiposity of the patient.

RISK OF RADIOGRAPHIC PROGRESSION (RPP)

The risk of RPP is shown as a function of Vectra Score (see graph, right). The definition of RPP is a 1-year total Sharp score change of 5 or more. Increased risk of RPP means a greater chance of irreversible joint damage.

Patient education may help reduce the risk of radiographic progression. Thus, the actual risk of radiographic progression may be higher if the patient is unresponsive and lower if the patient is unresponsive.

CHANGE IN SCORE DESCRIPTION

Change in Score is assessed in relation to the Minimally Important Difference (MID) for Vectra. The MID for patients with a Moderate or High Vectra Score is 8.

VECTRA SCORES OVER TIME

Change in Score is assessed in relation to the Minimally Important Difference (MID) for Vectra. The MID for patients with a Moderate or High Vectra Score is 8.

Report Highlights

- Vectra provides a personalized measure of disease activity
- Vectra provides the risk of rapid radiographic progression within one year²
- Change in Vectra Score is assessed in relation to the Minimally Important Difference (MID). MID of 8 reflects the smallest absolute change in Vectra Score that likely reflects a change in disease activity and is not due only to random variation.³
- Vectra Score Interpretation calls out considerations for treatment decisions
- Patient Vectra Scores for the past three years are presented in one easy-to-read graph

The Vectra® Report Gives Clear Perspective of RA Inflammation



Vectra Helps Identify a Patient's Future Risk of Radiographic Progression

PATIENT INFORMATION		VISIT NOTES
Age	49	<ul style="list-style-type: none">• Patient is 5'2", 178 lbs.• Patient reports feeling okay and is resistant to changing therapy• Patient has had RA for five years
Gender	Female	
Diagnosis	RA	
Drug Therapy	MTX, Etanercept	

Vectra Score

72

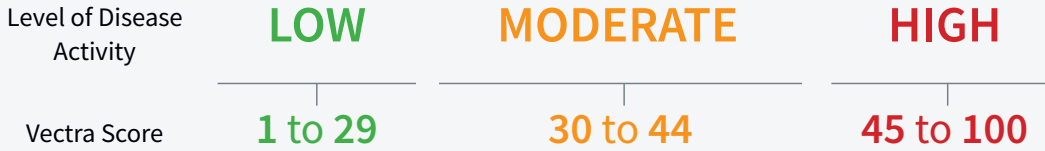
HIGH
(45-100)



Scores over time will show a trend and can **provide insight into a meaningful change** in the patient's disease activity

Vectra® Report: A Personalized Precision Tool

The Vectra Score is reported on a scale of 1-100. Patients in the high and moderate categories are considered to have uncontrolled inflammation, and may require treatment modification.



REPORT PAGE 1

Vectra Score factors in age, gender and adiposity of the patient to provide personalized measurement of inflammation

Risk of RP patient's risk of rapid radiographic progression within one year

Change in Score will show the difference between multiple scores and indicate if there has been a meaningful change, or no change in disease activity

Vectra Scores Over Time is a rolling 3.5 year date range plus initial score consisting of 7 half-year periods

Vectra® by **labcorp**
SAMPLE

ORDERING PHYSICIAN: Physician Name, MD

RECEIVING HEALTHCARE PROVIDER Healthcare Provider 1234 Main Street Anytown, OK 12345 Phone: 555-555-1234 / Fax: 555-555-1234	SPECIMEN Collection Date: JUL-24-2020 Receipt Date: JUL-25-2020	PATIENT Name: Jane Doe Date of Birth: NOV-1-1970 Patient ID: 000-000-0000 Gender: Female TRF ID: 00000000-00
REPORT Report Date: JUL-30-2020		

Vectra Molecular Result

Vectra Score	Risk of RP	Change in Score	Vectra Score Interpretation
72 HIGH (45-100)	20% 1-Year Risk of Radiographic Progression	↑ Meaningful Increase ≥8 Units	<p>High Vectra Score: 72</p> <p>Patient has a High Vectra Score that increased by 8 or more units from the previous score, which was also in the High category. Patient is at increased risk for radiographic progression. Consider adjusting treatment regimen to reduce inflammation, and retesting at the next clinical visit.</p>

VECTRA SCORE DESCRIPTION

Vectra Disease Activity Levels: ■ Low: 1 to 29 ■ Moderate: 30 to 44 ■ High: 45 to 100

Vectra Score measures the concentrations of 12 serum proteins. An algorithm is applied to these concentrations to calculate a disease activity score on a scale of 1 to 100. The Vectra Score is personalized based on the age, gender, and adiposity of the patient.

RISK OF RADIOGRAPHIC PROGRESSION (RP)

The risk of RP is shown as a function of Vectra Score (see graph, right). The definition of RP is a 1-year total Sharp score change of >5 units. Increased risk of RP means a greater chance of irreversible joint damage.

Patient serostatus may affect the risk of radiographic progression. Thus, the actual risk of radiographic progression may be higher if this patient is seropositive and lower if this patient is seronegative.

CHANGE IN SCORE DESCRIPTION

Change in Score is assessed in relation to the Minimally Important Difference (MID) for Vectra. The MID for patients with a Moderate or High Vectra Score is 8.0.

VECTRA SCORES OVER TIME Complete score history shown on last page.

Date	Vectra Score	Category
Jan, 2018	~45	High
Jan, 2019	~45	High
Jan, 2020	44	Moderate
3/25/20	63	High
7/30/20	72	High

*As of December 4, 2017 the Vectra Score is adjusted based on the age, gender and adiposity of the patient.

While the Vectra Score provides important objective data, it is intended for informational purposes only and does not constitute a recommendation. Medical management decisions should be made by a healthcare provider with an understanding of the full medical history and clinical assessment of the patient. For full test specifications and related publications, please visit [VectraScore.com](#).

Vectra Score Interpretation provides a more detailed explanation of the Vectra Score, disease activity category, risk of radiographic progression and treatment plan consideration

Risk of RP Graph gives a patient's future risk of radiographic progression based on their Vectra Score

As of 12/4/2017 Vectra Score has been adjusted based on **age, gender and adiposity** of the patient

Meaningful Change: MID of 8 is the smallest absolute change in the Vectra Score that is likely to reflect change in disease activity

Sample PB 251REV3 / 7-20

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REPORT PAGE 2

The Vectra Score is calculated from the concentrations of the 12 biomarkers shown on this page, which represent different biological pathways involved in RA pathophysiology. The clinical application of individual biomarker values, which have different weighting in the Vectra algorithm, has not been established

Includes the leptin range for all RA patients

Result/Units: Concentrations of the individual biomarkers



SAMPLE

PATIENT: Jane Doe

DOB: NOV-1-1970

PATIENT ID: 000-000-0000

GENDER: Female

Individual Biomarker Results

TYPE	BIOMARKER	RESULT / UNITS	RA RANGE ¹	RA PERCENTILE ²
ACUTE PHASE PROTEINS	SAA	1.1 ug/mL	0.29 - 85	8%
	CRP	0.32 mg/L	0.19 - 92	64%
ADHESION MOLECULES	VCAM-1	0.41 ug/mL	0.39 - 1.2	68%
CYTOKINE-RELATED PROTEINS	IL-6	2.9 pg/mL	2.5 - 200	6%
	TNF-R1	1.2 ng/mL	0.8 - 3.9	2%
GROWTH FACTORS	EGF [§]	190 pg/mL	12 - 410	17%
	VEGF-A	330 pg/mL	75 - 790	26%
HORMONES	LEPTIN	10 ng/mL	1.5 - 120	18%
	RESISTIN	5.7 ng/mL	3.5 - 21	51%
MATRIX METALLOPROTEINASES	MMP-1	5.6 ng/mL	1.3 - 23	21%
	MMP-3	17 ng/mL	7.9 - 160	10%
SKELETAL-RELATED PROTEINS	YKL-40	45 ng/mL	22 - 540	3%

¹ These 95% reference ranges were established from 325,781 patient samples tested at Crescendo Bioscience Clinical Laboratory.
[§] Inversely correlated with disease activity.
² Subject's biomarker level relative to levels in RA patient specimens from which the RA ranges were determined.

Please note: The individual biomarker results, which are expressed to two significant figures, are required inputs into the algorithm used to calculate the Vectra Score. Clinical interpretation of individual biomarker levels, which have different weights in the Vectra algorithm, has not been established.

Complete Vectra Score History

COLLECTION DATE	SCORE	NOTES
Feb. 10, 2017	56	Unadjusted*
Nov. 15, 2019	44	
Mar. 25, 2020	63	
Jul. 30, 2020	72	

*As of December 4, 2017 the Vectra Score is adjusted based on the age, gender and adiposity of the patient.

Comments

While the Vectra Score provides important objective data, it is intended for informational purposes only and does not constitute a recommendation. Medical management decisions should be made by a healthcare provider with an understanding of the full medical history and clinical assessment of the patient. For full test specifications and related publications, please visit VectraScore.com.

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Sample PB 251REV3 / 7-20

The RA range refers to the reference range for each biomarker based on a reference set of RA patients. This is the concentration range that contains the central 95% of results for that biomarker

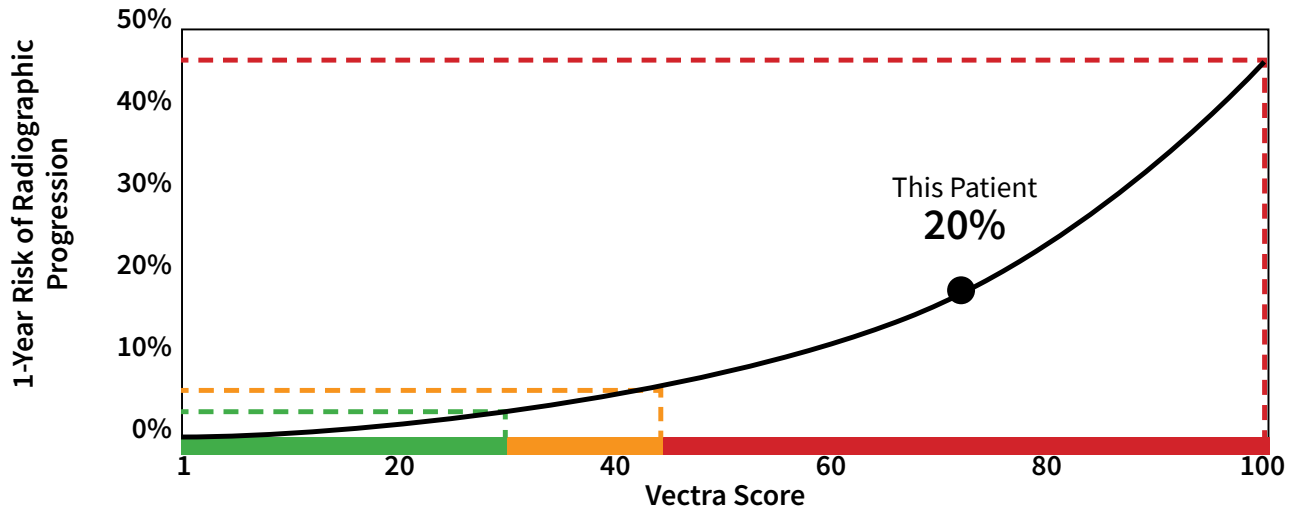
Patient biomarker level relative to levels in all patients in the RA reference set

Includes a complete list of your patient's historical Vectra Scores

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Vectra® by Labcorp Guided Care

Vectra Is a Validated Prognostic Test for Radiographic Progression²



The Vectra Score correlates to the risk of radiographic progression (RP), which leads to permanent joint damage. As the Vectra Score increases, the risk of RP increases. Sharp Score is used to evaluate radiographic progression. A Sharp Score change of 5 or more within one year is considered rapid radiographic progression.²

Patient serostatus may affect the risk of radiographic progression. The actual risk of radiographic progression may be higher if this patient is seropositive and lower if this patient is seronegative.

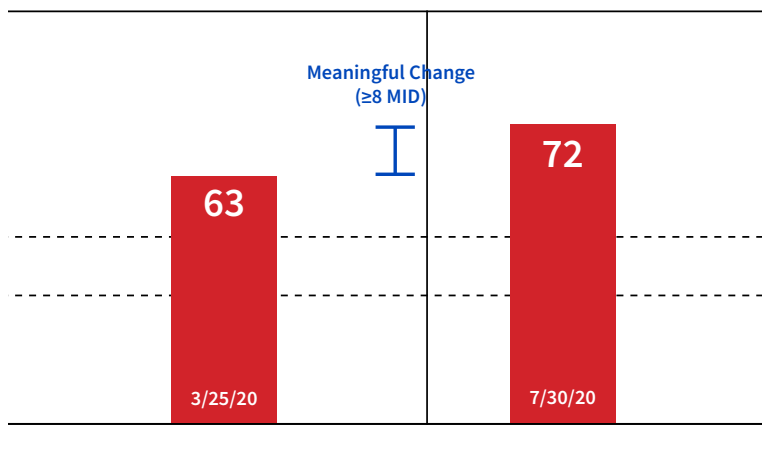
How was the Radiographic Progression Risk developed?

The risk of RP was determined by combining data from four cohorts (OPERA, BRASS, SWEFOT, and Leiden) to evaluate the ability of the Vectra Score to predict radiographic progression and to compare this ability with those of DAS28-CRP and CRP. Vectra was three times better at predicting RP in one year than DAS28-CRP.²

An increased risk of radiographic progression means **greater chance of irreversible joint damage**

Vectra® by Labcorp Guided Care

Minimally Important Difference (MID) Can Help Guide Your Decision Making



Changes of Vectra Scores of 8 or more help guide medical management decisions by representing meaningful changes in rheumatoid arthritis inflammation.

How was the Minimally Important Difference established? The minimally important difference (MID) was determined by conducting a clinical study. This clinical study evaluated daily and diurnal variation in Vectra Scores in order to determine the minimally important change in score that is clinically meaningful. Having this information will help aid in your ability to make treatment decisions.

Vectra Score Interpretation

VECTRA SCORE	MEDICAL MANAGEMENT RECOMMENDATION [†]
Low (<30)	<p>CONSIDER ONE OF THE FOLLOWING:</p> <ul style="list-style-type: none"> • No treatment change (re-test in 6-12 months or sooner if indicated) • Reduce treatment if Vectra Score is low at two consecutive measures (re-test in 6-12 months or sooner if indicated)* <p><small>*See ACR Guidelines for therapy reduction in clinically well controlled patients</small></p>
Moderate (30-44)	<p>CONSIDER ONE OF THE FOLLOWING:</p> <ul style="list-style-type: none"> • Change or intensify treatment <ul style="list-style-type: none"> • If the Vectra Score has increased by ≥ 8 units since previous Vectra (re-test in 3 months) • If the Vectra Score has decreased by <8 units since the most recent RA treatment change use clinical judgment (re-test when indicated) • No treatment change <ul style="list-style-type: none"> • If the Vectra Score has decreased by >8 units since baseline or the most recent RA treatment change (re-test when indicated) • If therapy was recently changed but no previous Vectra Score is available (re-test in 3 months)
High (>44)	<p>CONSIDER ONE OF THE FOLLOWING:</p> <ul style="list-style-type: none"> • Change or intensify treatment (re-test in 3 months) • No treatment change if the Vectra Score has decreased by >8 units when a change in therapy has recently occurred (re-test in 3 months)

This medical management guidance provides recommendations only. The treatment management decisions can only be done by a medical professional with the full information of patient's medical status and medical history. These recommendations are currently being tested in clinical trial "VIVID" listed on [clinicaltrials.gov \(NCT03810144\)](https://clinicaltrials.gov/ct2/show/study/NCT03810144).

Test Name	Test No.	Specimen	Container	Storage
Vectra	504965	2 mL Serum	Gel-barrier tube, red-top tube or serum transfer	Frozen (preferred) or refrigerated
Vectra CV Risk	504980			

Intended Use

MANAGEMENT DECISION

Patient and provider agree to make a treatment change



Baseline at time of treatment change decision



Therapy Initiation or Change: Until the desired treatment target is reached, drug therapy should be adjusted every 3-6 months

THERAPY MONITORING

Evaluate if treatment is working



Test at 3-6 months after treatment change to evaluate if treatment is working



Achieving a state of disease remission in RA is considered a primary treatment goal

LOW DISEASE ACTIVITY MONITORING

Evaluate that patient remains within disease goal



Continue to test patient two times a year, once in low activity



Monitor that patient is remaining in treatment goal

Provider Resources

VectraView®

VectraView® is an online analytical tool that enables you to draw insights from Vectra results at the individual patient or practice level. VectraView allows you to:

- Access all of your patients' Vectra results in one place through a convenient online portal
- Store and access disease activity measurements alongside Vectra results
- View Vectra Scores displayed in the context of your patients' medications
- View Vectra results for all tested patients in one view and filter to identify patients for follow-up

labcorp | Link™

A secure, mobile optimized web application that lets you:

- Order tests and receive result reports
- Order supplies
- View on-screen visual cues with specimen collection instructions (AccuDraw)
- Pay a bill and access billing forms

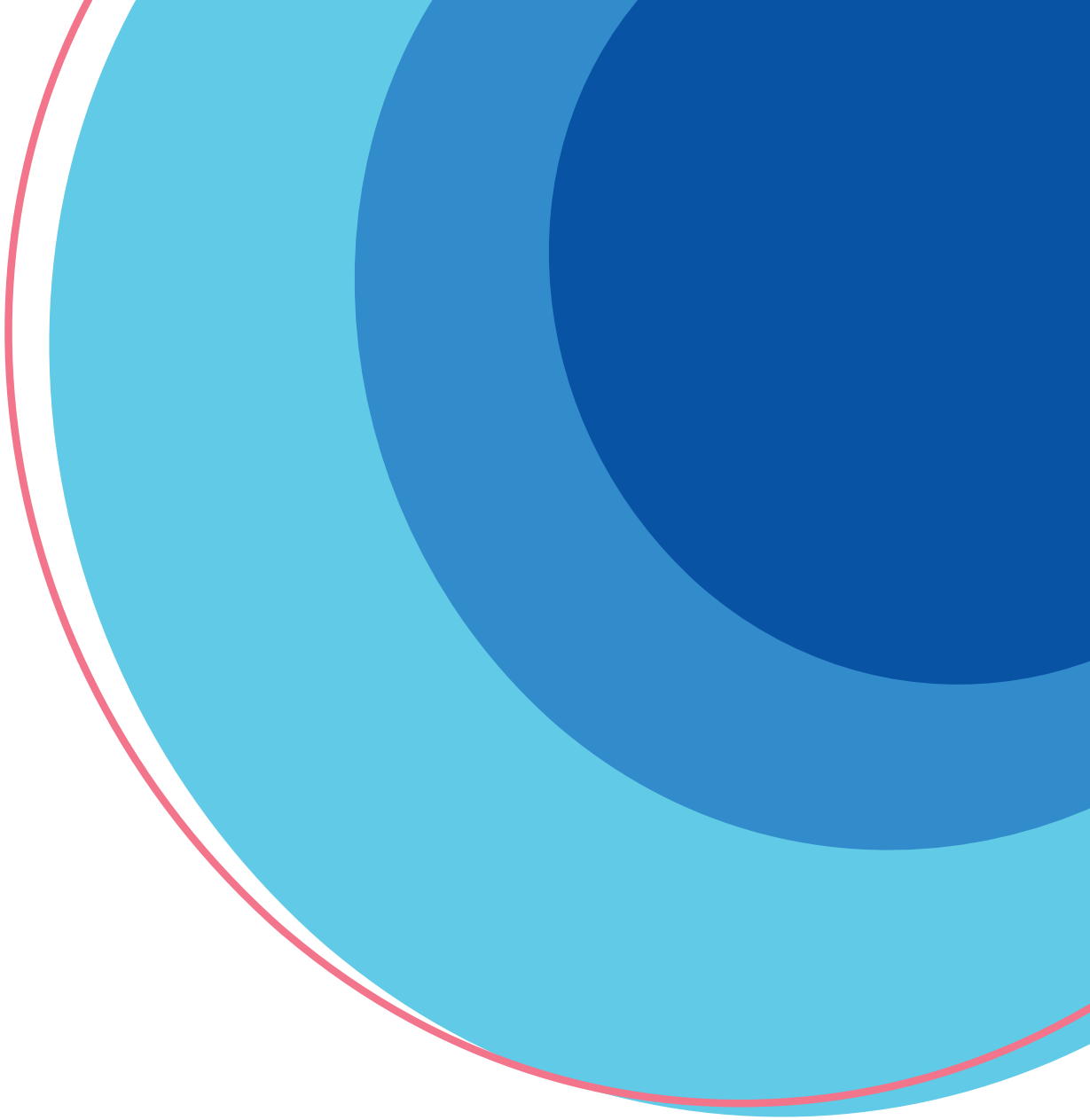
Provider Support



A team of highly-trained medical liaisons is available for consultation. For questions associated with the Vectra Test, please contact Customer Service.

Phone: 1-877-743-8639





References

1. Curtis JR, Brahe CH, Ostergaard M, et al. Predicting risk for radiographic damage in rheumatoid arthritis: comparative analysis of the multi-biomarker disease activity score and conventional measures of disease activity in multiple studies. *Current Medical Research and Opinion*. 2019; 35(9):1483-1493. **2.** Curtis JR, Weinblatt ME, Shadick NA, et al. Validation of the adjusted multi-biomarker disease activity score as a prognostic test for radiographic progression in rheumatoid arthritis: a combined analysis of multiple studies. *Arthritis Research & Therapy*. 2021; 23(1). **3.** Chernoff D, Eastman PS, Hwang CC, et al. Determination of the minimally important difference (MID) in multi-biomarker disease activity (MBDA) test scores: impact of diurnal and daily biomarker variation patterns on MBDA scores. *Clin Rheum*. 2019;38:437-445. **4.** Curtis JR, Xie F, Yang S, Danila MI, et al. Uptake and clinical utility of multibiomarker disease activity testing in the United States. *J Rheum*. 2019;46:3.