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Bridging Critical Gaps in Axial Spondyloarthritis Diagnosis

Anti-14-3-3eta Multiplex Biomarker

Anti-14-3-3eta Multiplex: A First-in-Class Biomarker for axSpA

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What is Axial Spondyloarthritis?

Axial Spondyloarthritis (axSpA) is a chronic inflammatory disease affecting the spine and sacroiliac joints, causing pain, stiffness, and joint damage.

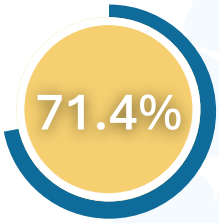
Burden of Diagnostic Delay

Patients often wait **7–10 years** for a diagnosis. Most with chronic back pain have **mechanical causes**, not axSpA. This overlap leads to misdiagnosis, delayed referral, and preventable spinal damage.[1]

Average years diagnostic delay[1]

Report difficulty getting out of bed[2]

Experience psychological distress[2]



Report difficulty maintaining employment[2]

What is Anti-14-3-3eta?

Anti-14-3-3eta Multiplex ASRs represent **a first-in-class diagnostic** that detects autoantibodies against the normally intracellular 14-3-3eta protein, a well-established biomarker in autoimmune rheumatologic disorders.

How it Works

This novel Luminex®-based assay measures 14-3-3eta autoantibodies in blood. When combined with age, sex, CRP, and HLA-B27, it improves diagnostic accuracy and supports earlier recognition of axSpA in patients with chronic back pain.

Anti-14-3-3eta Multiplex Differentiates axSpA from Mechanical Back Pain

Key Features of Anti-14-3-3eta Multiplex

- **Differentiates axSpA from Mechanical Back Pain:** Demonstrates statistically significant separation of inflammatory and mechanical back pain (MBP, p<0.001).[3]
- **High Sensitivity and Specificity**: Sensitivity improves from 42% with the test alone, to 88% when combined with standard markers, while maintaining 90% specificity.[3]
- **Complements Existing Markers:** Increases diagnostic accuracy and raises PPV to 95% when combined with CRP and HLA-B27.[3]
- **Strong Diagnostic Odds Ratio:** DxOR rises from 5.4 to 63.7 with combined markers, confirming robust discrimination of axSpA.[3]

Figure 1: Anti-14-3-3eta Multiplex Score Distribution (axSpA vs MBP and Healthy)[3]

- **Differentiates r-axSpA and nr-axSpA from MBP and healthy**
- **Robust statistical significance across groups (p<0.001)**
- **Supports early recognition and referral of axSpA**

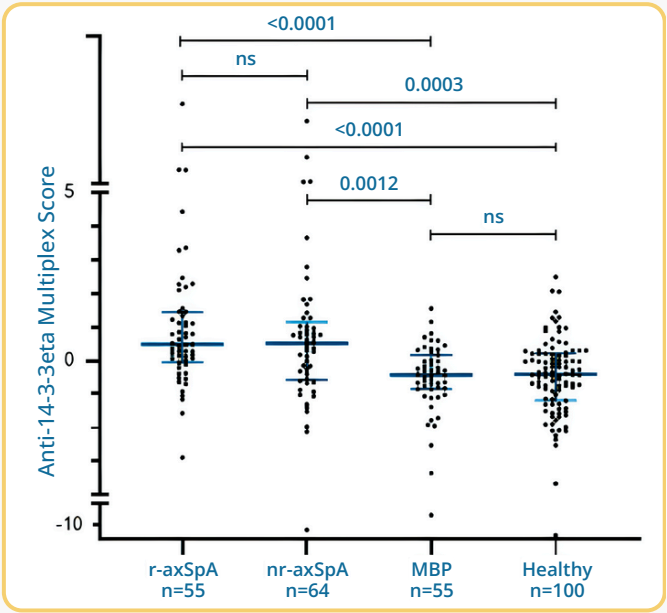


Table 1: Performance of Anti-14-3-3eta Multiplex with Standard Clinical Markers[3]

Markers	AUC	Sensitivity (SN)	Specificity (SP)	PPV	NPV	Diagnostic Odds Ratio
Anti-14-3-3eta Multiplex	0.77	42%	90%	88%	42%	5.4
+ Age, Sex	0.88	67%	90%	94%	56%	18.4
+ Age, Sex, CRP	0.89	72%	90%	94%	60%	23.4
+ Age, Sex, CRP, HLA-B27	0.93	88%	90%	95%	78%	63.7

Performance Highlights

- **AUC up to 0.93** | strong accuracy
- **PPV up to 95%** | exceeds referral benchmarks
- **DxOR up to 63.7** | confirms powerful discrimination
- **90% specificity** | reliable exclusion of non-axSpA

Anti-14-3-3eta Multiplex Launching Nationwide in 2026

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Key Benefits of Anti-14-3-3eta Multiplex

- **Addresses the back pain challenge:** Differentiates axSpA from mechanical causes.
- **Supports earlier intervention:** Identifies patients who need referral and treatment sooner.
- **Complements existing tools:** Works with CRP, HLA-B27, and imaging to increase confidence.
- **Improves outcomes:** Helps reduce the 7-10 year diagnostic delay and risk of spinal damage.

Test Availability

Anti-14-3-3eta Multiplex is preparing for launch with a national laboratory partner in **2026**. Early access and evaluation programs are available for select collaborators.

Sign up for updates

Partner with Augurex

Join us in expanding diagnostic options for axSpA. Contact us to learn more about collaborations and test availability.

Contact

www.augurex.com

+1604-674-8231

info@augurex.com

References

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2. The burden of axial spondyloarthritis: A global patient perspective. International Map of Axial Spondyloarthritis (IMAS) Report. 2024, Jan. https://asif.info/imas/imas-global-report
3. Sengupta R, Marotta A, Maksymowych WP, Cavill C, Bleakley S, Biln N. Autoantibodies to 14-3-3eta: A Novel Diagnostic Biomarker for Axial Spondyloarthritis. Presented at: American College of Rheumatology (ACR) Convergence 2025; October 2025; Chicago, IL. Oral Presentation. Abstract 2636.