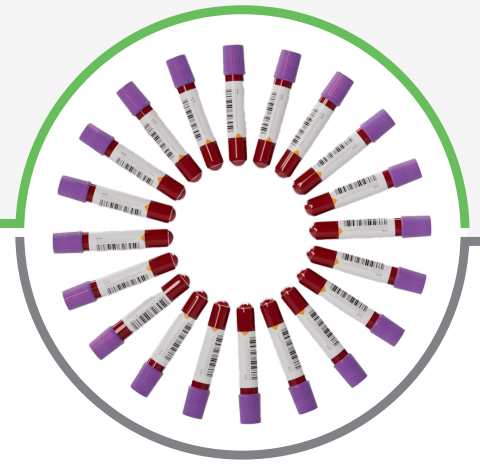


# Ensuring ESR result reliability...

## 7x Longer Sample Stability



ESR is one of the most widely-used lab tests in the world, yet traditional ESR test methods are constrained by a short 4 hour window of room temperature sample stability before degradation begins.<sup>1</sup>

### Our ESR Test







The iSED® family of analyzers measures rouleaux formation, representing the initial and most critical phase of erythrocyte sedimentation. The iSED photometric rheology technology is not impacted by the same variables as sedimentation-based ESR tests.

### Other ESR Tests



Sample stability is maintained for up to 28 hours at room temperature and up to 48 hours refrigerated, optimizing sample integrity and enabling reliable results across decentralized collection situations.

### Transforming ESR testing with...

-  The longest sample stability  
28 hour room temperature, 48 hour refrigerated
-  The least amount of hands-on time  
96% hands-on time savings
-  Fastest turnaround time  
Results in <20 seconds
-  Smallest sample volume  
100 µL aspirated



## A Fresh Look at ESR Stability

ESR testing guidelines<sup>1,2</sup> have established recommendations for sample stability when tested with the traditional Westergren method: 4 hours room temperature or 24 hours refrigerated.

Newer alternate ESR methods generate an ESR result by evaluating an earlier part of the sedimentation process. The iSED photometric rheology technology is an alternate ESR method<sup>2</sup>, so ESR sample stability was re-examined by comparing aged samples to fresh samples using Passing-Bablok regression analysis.

## iSED Family of Analyzers Sample Stability

### Refrigerated Samples

Fresh EDTA-anticoagulated samples spanning the dynamic range of the assay were identified by doing a baseline test on iSED ELITE\*. These samples were then stored at 4-8°C and analyzed at multiple time points. Testing was performed November 2024 - April 2025. The 48 hour results were plotted as a function of the baseline results and analyzed by Passing-Bablok regression. Fifty-two samples were tested. The regression statistics of the 48-hour vs. baseline comparison were: slope = 0.94 with a 95% confidence interval of 0.85 to 1.03, intercept = 1.32 with 95% confidence interval of -1.54 to 3.46 and a Spearman correlation coefficient of 0.95. The slope and intercept confidence intervals including 1.00 and 0.00, respectively and a correlation coefficient  $\geq 0.90$  demonstrates statistically significant identity between baseline and 48 hours when samples are stored at 4-8°C, thus supporting a refrigerated stability claim of 48 hours.

### Room Temperature Samples

Fresh EDTA-anticoagulated samples spanning the dynamic range of the assay were identified by doing a baseline test on iSED ELITE\*. These samples were then stored at room temperature and analyzed at multiple time points. Testing was performed November 2024 - April 2025. The 28 hour results were plotted as a function of the baseline results and analyzed by Passing-Bablok regression. Fifty-one samples were tested. The regression statistics of the 28 hour vs baseline comparison were: slope = 0.93 with a 95% confidence interval of 0.84 to 1.05, intercept = 1.52 with confidence interval of -2.80 to 3.97 and a Spearman correlation coefficient of 0.90. The slope and intercept confidence intervals including 1.00 and 0.00, respectively and a correlation coefficient  $\geq 0.90$  demonstrates statistically significant identity between baseline and 28 hours when samples are stored at 18-25°C, thus supporting a room temperature stability claim of 28 hours.

\*The iSED family of analyzers, including miniiSED®, iSED, iSED ELITE, and iSED PRO, use a common analytical unit for generating ESR results. Since the underlying technology is common and all analyzers are calibrated to a common Reference Unit, sample stability is the same across the analyzers.



### Contact Us

1.401.737.3774

info@alcorscientific.com

[ALCORSCIENTIFIC.COM](http://ALCORSCIENTIFIC.COM)

#### References:

1. CLSI. *Procedures for the Erythrocyte Sedimentation Rate Test; Approved Standard—Fifth Edition CLSI document H02-A5*. Wayne, PA: Clinical and Laboratory Standards Institute; 2011.
2. Jou JM, Lewis SM, Briggs C, Lee SH, De La Salle B, McFadden S; International Council for Standardization in Haematology. ICSH review of the measurement of the erythrocyte sedimentation rate. *Int J Lab Hematol*. 2011 Apr;33(2):125-32. doi: 10.1111/j.1751-553X.2011.01302.x. Epub 2011 Feb 25. PMID: 21352508. <https://medlineplus.gov/lab-tests/erythrocytesedimentation-rate-esr/>

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