

# Interference Has Entered the Chat

Five bench-level signals on preanalytics, matrix effects, and results that look plausible right up until they are not.

Monday, September 14, 2026

Chemistry | Preanalytics | Immunoassay | Protein studies |  
Patient safety

## FIVE SIGNALS WORTH YOUR BENCH TIME

### 01 / CHEMISTRY / INTERFERENCE

## A high total calcium can still be a protein problem

**Finding.** A 2026 case report describes multiple myeloma with hyperglobulinemia and persistent high total calcium despite treatment. Direct ionized calcium, dilution testing, ICP-MS verification, and PEG precipitation supported pseudohypercalcemia rather than true physiologic hypercalcemia.

**Why it matters.** The laboratory was not merely confirming a number; it changed the clinical story. A discordant calcium result deserves a matrix-aware investigation before treatment is intensified.

**Limits.** Single-patient evidence. Protein concentration, paraprotein characteristics, and platform design can change the interference pattern, so this is a trigger for local investigation - not a universal correction rule.

Evidence label: Peer-reviewed case report. Full text may require subscription.

### 02 / PREANALYTICS / MACHINE LEARNING

## Mild EDTA contamination may need more than a potassium rule

**Finding.** Investigators trained multiple machine-learning models on routine chemistry patterns and tested them in 300 real-world samples, half intentionally contaminated at mild-to-moderate levels. The work targets contamination that conventional detection rules can miss.

**Why it matters.** A plausibly abnormal electrolyte panel can survive both the analyzer and a rushed review. Pattern-based flags could become an additional specimen-integrity control when paired with transparent thresholds and human review.

**Limits.** Part of the test set was deliberately contaminated, and performance depends on the analytes, patient mix, instruments, and data preprocessing used. External validation and prospective silent-mode testing are required before release rules change.

Evidence label: Peer-reviewed diagnostic modeling study. Abstract verified; full text may require subscription.

## Anti-Tg and thyroglobulin recovery do not behave as interchangeable alarms

**Finding.** A retrospective analysis of 15,609 high-throughput laboratory samples found disturbed thyroglobulin recovery in only 98 samples. Anti-thyroglobulin antibodies were common among disturbed recoveries, but the relationship was incomplete rather than one-to-one.

**Why it matters.** A single interference surrogate can provide false reassurance or unnecessary concern. Laboratories should interpret thyroglobulin, anti-Tg, recovery behavior, assay design, and clinical context as a connected set.

**Limits.** Retrospective data from a specific immunometric workflow do not establish performance across manufacturers. Recovery studies also model only some forms of interference.

Evidence label: Peer-reviewed observational laboratory study. Full text may require subscription.

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## FNAC washout calcitonin needs its own validation file

**Finding.** A 2026 validation study tested calcitonin measurement in fine-needle aspiration cytology washout using CytoLyt, saline, and a commercial diluent, examining precision, recovery, linearity, and storage stability rather than assuming a serum assay would transfer cleanly.

**Why it matters.** Nonstandard matrices quietly become routine tests. A defensible workflow specifies the solvent, storage window, measurement range, and acceptance criteria before the first patient cutoff is applied.

**Limits.** Results are assay- and solvent-specific. The study informs analytical implementation but does not by itself establish a universal clinical decision limit.

Evidence label: Peer-reviewed analytical validation study. Publisher page verified; access conditions vary.

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## Daratumumab can follow the specimen into urine IFE

**Finding.** A case report documents new IgG-kappa bands in serum and concentrated urine after daratumumab therapy. A daratumumab-specific shift assay moved the suspect bands, supporting therapeutic-antibody interference rather than a new endogenous M-protein.

**Why it matters.** Medication history belongs in the analytical workup. The urine finding expands the places where a familiar therapeutic antibody may imitate disease and complicate response assessment.

**Limits.** First-report, single-patient evidence. The named shift assay is a commercial method, and performance in other urine matrices or electrophoresis systems requires local verification.

Evidence label: Peer-reviewed case report. Commercial assay named; no product endorsement.

# Verified source trail

1. Zhao A, Zhong F, Liu Y, et al.. Laboratory Identification of Pseudohypercalcemia Induced by Hyperglobulinemia in Multiple Myeloma: A Case Report. Journal of Clinical Laboratory Analysis. 2026. DOI: 10.1002/jcla.70342.
2. Farrell CJL, Sherfan J, Badrick T. Machine learning for the identification of mild to moderate EDTA contamination of serum samples. Annals of Clinical Biochemistry: International Journal of Laboratory Medicine. 2026. DOI: 10.1177/00045632261488751.
3. Markewitz R, Wandinger KP, Junker R. Critical appraisal of the influence of antithyroglobulin on the measurement of thyroglobulin and thyroglobulin recovery. Journal of the Endocrine Society. 2026. DOI: 10.1210/jendso/bvag183.
4. Mater A, Heijboer AC, Boelen A, et al.. Pre-analytical and analytical validation of calcitonin measurement in fine needle aspiration cytology washout. Clinical Chemistry and Laboratory Medicine (CCLM). 2026. DOI: 10.1515/cclm-2026-1057.
5. Lee HW, Yu S, Koo SE, et al.. First report of daratumumab interference in urine immunofixation electrophoresis confirmed by the HYDRASHIFT 2/4 Daratumumab assay. Annals of Clinical Biochemistry: International Journal of Laboratory Medicine. 2026. DOI: 10.1177/00045632261479641.

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