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## Analytica Chimica Acta

Volume 500, Issues 1–2, 19 December 2003, Pages 279–286

Review

### Clinical applications of chemiluminescence

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[https://doi.org/10.1016/S0003-2670\(03\)00809-2](https://doi.org/10.1016/S0003-2670(03)00809-2)

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#### Abstract

This article reviews the clinical applications of chemiluminescence in routine testing and surveys the diverse applications of chemiluminescence in clinical research. In routine clinical testing, chemiluminescent labels (acridinium ester, acridinium sulfonamide) and detection reactions for peroxidase and alkaline phosphatase enzyme labels (luminol and adamantyl 1,2-dioxetane-based reactions, respectively) are widely used in immunoassay and nucleic acid probe assays (e.g. hybridization protection assay, Hybrid Capture<sup>®</sup> assay). In clinical research the sensitivity, dynamic range and diversity of chemiluminescent assays has led to a vast range of applications, notably in protein and nucleic acid blotting, microarray-based assays, monitoring reactive oxygen species, and as detection reactions for substances separated by HPLC, capillary electrophoresis (CE), and flow-injection analysis.



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## Keywords

Chemiluminescence; Immunoassay; Nucleic acid assay; Dioxetane; Luminol; Acridinium ester

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