

Performance of the XE-2100 leucocyte differential

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The XE-2100 trade mark was evaluated in a multicentre study following a previously established protocol. In this paper, we demonstrate the results of analytical performance studies, including comparison of the leucocyte differential with the NCCLS H20-A method and evaluation of flagging sensitivity. Linearity of the leucocyte count over a wide clinical range, low imprecision in clinically important ranges and no measurable carry over were confirmed. For comparability studies, 4 x 200 cell microscopic differential leucocyte counts were correlated with the automated five-part-differential counts. No significant differences were detected in (1) a group without morphological abnormality and in (2) a leukopenic group. The sensitivity of flags for the detection of immature granulocytes and myeloid blasts was very good. Only few samples containing blast cells remained unrecognized but these would have been examined microscopically in any event because of other abnormalities indicated by the instrument. Atypical/abnormal lymphocytes/and lymphoblasts were detected very reliably when the total lymphocyte count and the flags were evaluated in combination. A similar procedure is recommended for the detection of left shift. When the neutrophil count is elevated, the sensitivity of the left shift flag is improved. The absolute immature granulocyte (IG) count by the instrument correlates well with that of myeloid precursor cells by microscopy.

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