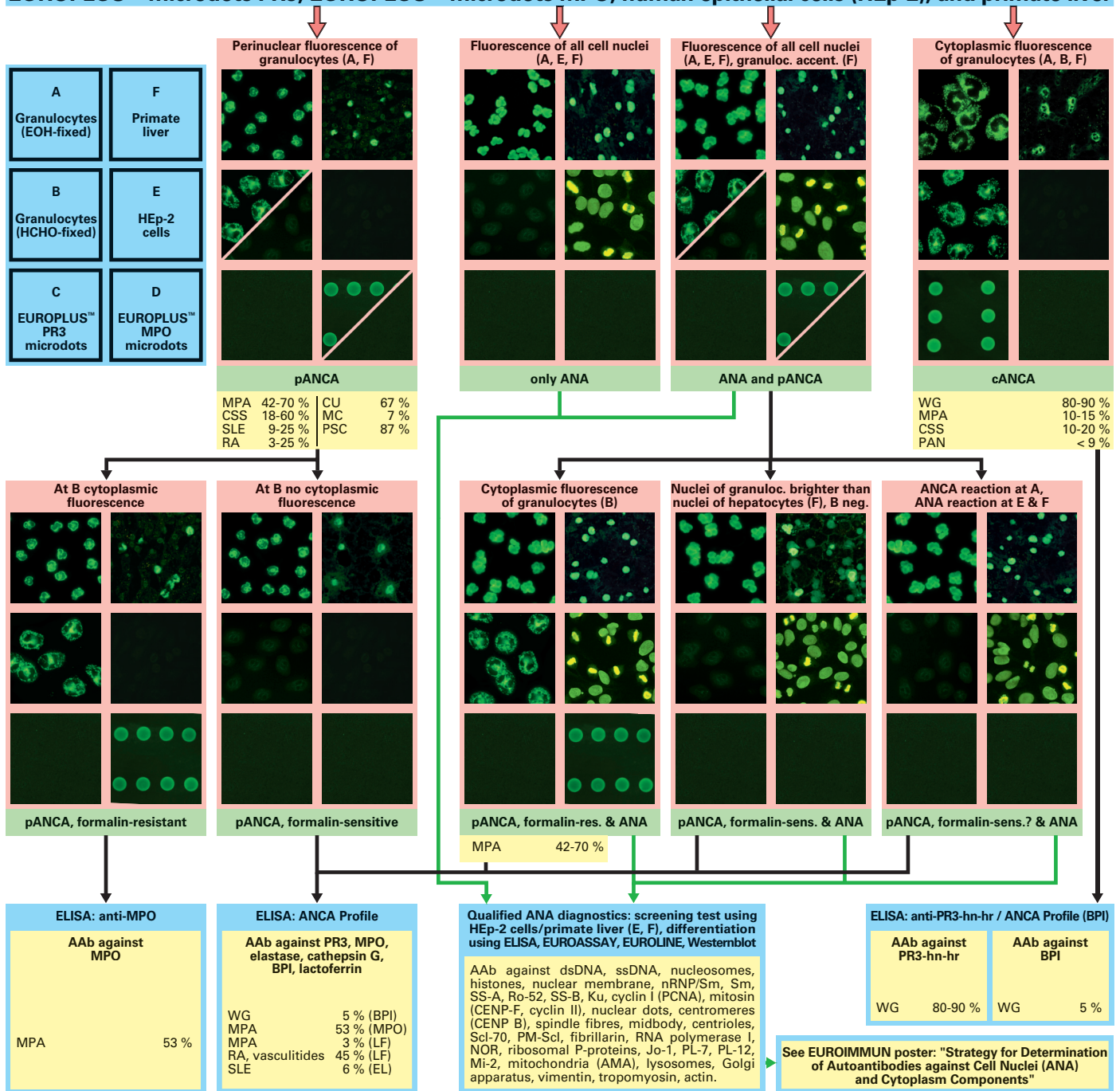




Cost-effective Strategy for the Detection of Autoantibodies against Granulocyte Cytoplasm (ANCA)

Screening test indirect immunofluorescence: BIOCHIP sextet granulocytes (EOH), granulocytes (HCHO), EUROPLUS™ microdots PR3, EUROPLUS™ microdots MPO, human epithelial cells (HEp-2), and primate liver



The highest diagnostic sensitivity in the determination of autoantibodies against neutrophil granulocytes (ANCA) is achieved by using **indirect immunofluorescence and assays with defined target antigens** (particularly PR3 and MPO) **simultaneously** at the start. However, under the pressure of cost optimisation, an immunofluorescence test may be performed on its own and then followed up by specific ELISA tests only if the result is positive. Ethanol-fixed human granulocytes are the standard substrate for indirect immunofluorescence. With this substrate two relevant fluorescence patterns (the cytoplasmic type (cANCA) associated with Wegener's granulomatosis and the perinuclear type (pANCA), which indicates a range of various diseases). The differentiation of pANCA from antibodies against cell nuclei (ANA) is often difficult. Therefore, HEp-2 cells (possibly with sedimented granulocytes) or primate liver are used as an additional substrate. If ANA and pANCA occur together, the granulocytes show a much brighter fluorescence than the cell nuclei. Thanks to EUROIMMUN BIOCHIPs it is not necessary to incubate human epithelial cells on a second slide in parallel for the exclusion of cell nucleus antibodies, since all substrates are present in one and the same test field. A fourth BIOCHIP with formalin-fixed human granulocytes detects a large proportion of the diagnostically relevant antibodies against myeloperoxidase, whereas other pANCA (which are particularly important in gastroenterology) and almost all antibodies against cell nuclei (whose differentiation is a separate chapter in autoantibody diagnostics) are generally completely suppressed. The EUROPLUS™ substrates PR3 and MPO help to confirm diagnosis and allow a quick and reliable interpretation of results even in problematic cases.

ANA: anti-nuclear antibodies BPI: bactericidal permeability increasing protein cANCA: anti-neutrophil cytoplasmic antibodies, cytoplasmic type CD: Crohn's disease CSS: Churg-Strauss syndrome EL: elastase EOH: ethanol HCHO: formalin HEp-2: human epithelial cells IFT: immunofluorescence test LF: lactoferrin MPA: microscopic polyangiitis MPO: myeloperoxidase PAN: polyarteritis nodosa pANCA: anti-neutrophil cytoplasmic antibodies, perinuclear type PR3: proteinase 3 PSC: primary sclerosing cholangitis RA: rheumatoid arthritis SLE: systemic lupus erythematosus UC: ulcerative colitis WG: Wegener's granulomatosis