

Lupus is a chronic autoimmune disease where the immune system mistakenly attacks healthy tissues and organs, causing widespread inflammation.

Systemic Lupus Erythematosus (SLE) testing utilising Indirect Immunofluorescence Antibody (IFA) assays involves a tiered approach, employing specific substrates to detect antinuclear (ANA) and anti-dsDNA antibodies. The standard protocol includes initial HEp-2 cell screening, with specific confirmation using *Crithidia luciliae* and sometimes rodent tissue substrates.

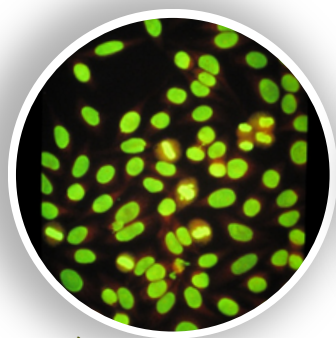
1. ANA Screening with HEp-2 Cells - The HEp-2 cell IFA is the "gold standard" for initial ANA screening due to its high sensitivity (95-98%) in detecting autoantibodies associated with connective tissue diseases.

Substrate: Human Epithelial type 2 (HEp-2) cells.

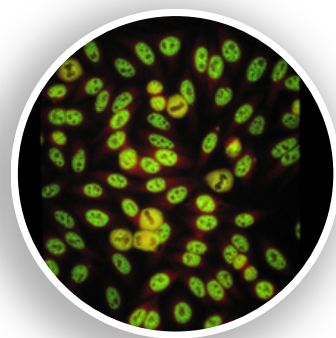
Protocol: Patient serum is diluted (typically 1:80 or 1:160) and incubated on HEp-2 prefixed glass slides. If ANA is present, it binds to the cell nuclei.

Detection: Fluorescein-labelled anti-human immunoglobulin (FITC-conjugate) is added, binding to the patient antibodies, creating an "apple-green" fluorescence.

Interpretation: Patterns (e.g., homogeneous, speckled, peripheral) are identified. A homogenous or peripheral pattern is often associated with anti-dsDNA.

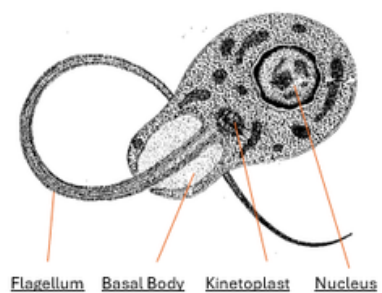


Homogeneous



Speckled

2. Anti-dsDNA Confirmatory Test (*Crithidia luciliae*) - The *Crithidia luciliae* IFA test (CLIFT) is highly specific for systemic lupus erythematosus (SLE) and is used to confirm the presence of high-avidity anti-dsDNA antibodies.

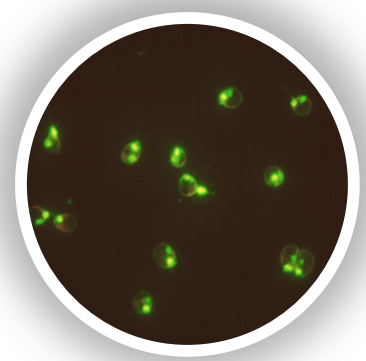


- Substrate:** *Crithidia luciliae* parasite, which contains a large mitochondrion (kinetoplast) loaded with circular native DNA (nDNA) that is free of histones.

- Protocol:** Serum is incubated on *C. luciliae* slides.

- Interpretation:** A positive result is indicated by the kinetoplast displaying apple-green fluorescence (kinetoplast staining). Staining of the nucleus is considered negative for specific nDNA antibodies.

- Significance:** High specificity for SLE (95-100%) but moderate sensitivity (50-60%).

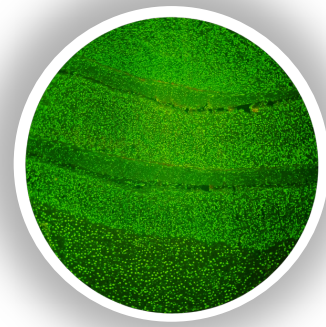


Crithidia luciliae - **Double stranded DNA** - showing strong staining of dsDNA in the kinetoplast and weaker staining of the nucleus

Lupus is a chronic autoimmune disease where the immune system mistakenly attacks healthy tissues and organs, causing widespread inflammation.

3. Rodent Tissue Substrate (Rat Liver/Stomach) - Rodent tissue substrates (e.g., rat liver or combined rat liver/kidney/stomach) are traditionally used to identify autoantibodies, particularly when differentiating SLE from other liver or connective tissue disorders.

- **Substrate:** Rat liver or composite rat liver/kidney/mouse stomach sections.
- **Applications:**
 - * **ANA Screening:** Less sensitive than HEp-2 but still used.
 - * **Autoimmune Hepatitis/PBC:** Detects Smooth Muscle Antibodies (SMA) in stomach muscularis and Mitochondrial Antibodies (MA) in kidney tubules.
- **Interpretation:** Fluorescence in rat liver nuclei indicates ANA, which can be correlated with the patterns found on HEp-2 cells.



ANA (Homogeneous): Affects the nucleus across all tissues, indicative of SLE.

Note: Positive ANA results may appear in up to 30% of healthy individuals, making clinical correlation essential.

Diagnostic Technical services
Product Offering on **Lupus**

Description	Code	Units
Crithidia nDna FAT	CL1010	10 x 10 Well Slide
Crithidia nDna FAT Kit	CLK102	100 Screen Tests
Crithidia nDna FAT Kit	CLK300	300 Screen Tests
HEp-2 for ANA FAT	AA0012	10 x 12 Well Slide
HEp-2 for FAT Kit	AAK120	120 Screen Tests
HEp-2 for FAT Kit	AAK300	360 Screen Tests

Test Kits used to identify autoantibodies, particularly when differentiating **SLE** from other liver or connective tissue disorders.

Description	Code	Units
Composite block (Autoantibody screen)	CB0603	10 x 6 Well Slide
Autoantibody Screen Kit	CBK180	180 Screen Tests
Autoantibody Screen Kit	CBK603	60 Screen Tests

For a breakdown of **DTS kit** Components, contact Sep Sci for more information.

ORDER HERE

Separation Scientific

Tel: 011 794 4117 | Email: Info@sepsci.co.za | Web: www.sepsci.co.za