

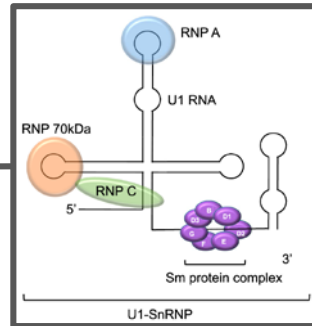
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“Sm” are called in the honor of patient “**Stephanie Smith**”, in whom this antibody was discovered for the first time. It is specific for **Systemic Lupus Erythematosus**

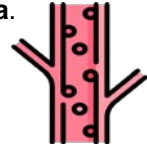
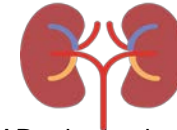
**Anti-Sm antibodies**



- **Family:** Antinuclear antibodies
- **Subfamily:** Anti Extractable Nuclear Antigens
- **Target antigen:** Sm is one of the proteins that form the U1-Sn ribonucleoprotein complex (U1-SnRNP), mainly: B/B', D and E proteins.

However, due to cross-reactive epitopes shared between U1-RNP and SmB proteins, SmD proteins, especially SmD1 and SmD3, are considered to be the most SLE specific antigen

- In SLE patients:**
- Are suggested to be associated with **renal involvement, psychosis, vasculitis and hemolytic anemia.**

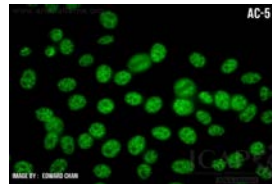


- In the 2019 ACR/EULAR criteria, they have been assigned **6 points** (Total score required for SLE classification  $\geq 10$  points)
- They have **no correlation with disease activity** (No increase in flares, and no decrease after treatment).

- Very high specificity in SLE: 98%
- Low sensitivity: 30% in SLE and 8% in Mixed Connective Tissue Diseases

**Screening technique:** Indirect Immunofluorescence (IIF) on HEp-2 cells

**IIF pattern on HEp-2 cells:** Coarse speckled nuclear



**Confirmation techniques:**

- **ELISA:** High sensitivity but high false positive
- **Line/dot blot Immunoassay :** High sensitivity and specificity but distinction between certain antibodies is difficult (anti-Sm and anti-RNP) as it is associated in  $\frac{2}{3}$  of patients to anti-RNP antibodies

