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Anti-U1-RNP antibodies

History :

- Discovery in 1971
- Nomination:



Target antigen:

- Classified as antinuclear antibodies (ANA) within the family of extractable nuclear antigen (ENA).
- Directed against U1 particle of ribonucleoprotein (RNP).

Main disease: Mixed Connective Tissue Disease (MCTD):

Key markers included in all diagnostic criteria of MCTD



Clinical correlation: higher rate of **lung fibrosis**, **arthritis**, **good-prognosis myositis**, and may play a protective role in **renal involvement**.

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

Confirmation techniques:

- Enzyme linked immunosorbent assay: ELISA
- Line/dot blot immunoassays
- => **risk of false positive results by cross-reactive epitope between the U1-RNP proteins and the Sm antigen.**
- Routine laboratory tests search mainly U-rich 70 kDa (U1) linked to smRNP, but only the elevated 70 kDa anti-U1-RNP titers proved to be highly indicative for MCTD.
- The IgM serotype of anti-U1-RNP seems more frequently expressed in SLE, while the IgG serotype alone in MCTD.

It can be seen in other connective tissue diseases such as systemic lupus erythematosus (SLE), systemic sclerosis (SSc), undifferentiated CTD (UCTD), overlap myositis, and overlap syndromes.

	MCTD	SLE	UCTD	SSc
Sensitivity of anti-U1-RNP (%)	100	20-50	06-20	10-20

IIF pattern on HEp-2 cells: coarse speckled nuclear pattern without nucleolar and cytoplasmic staining.

