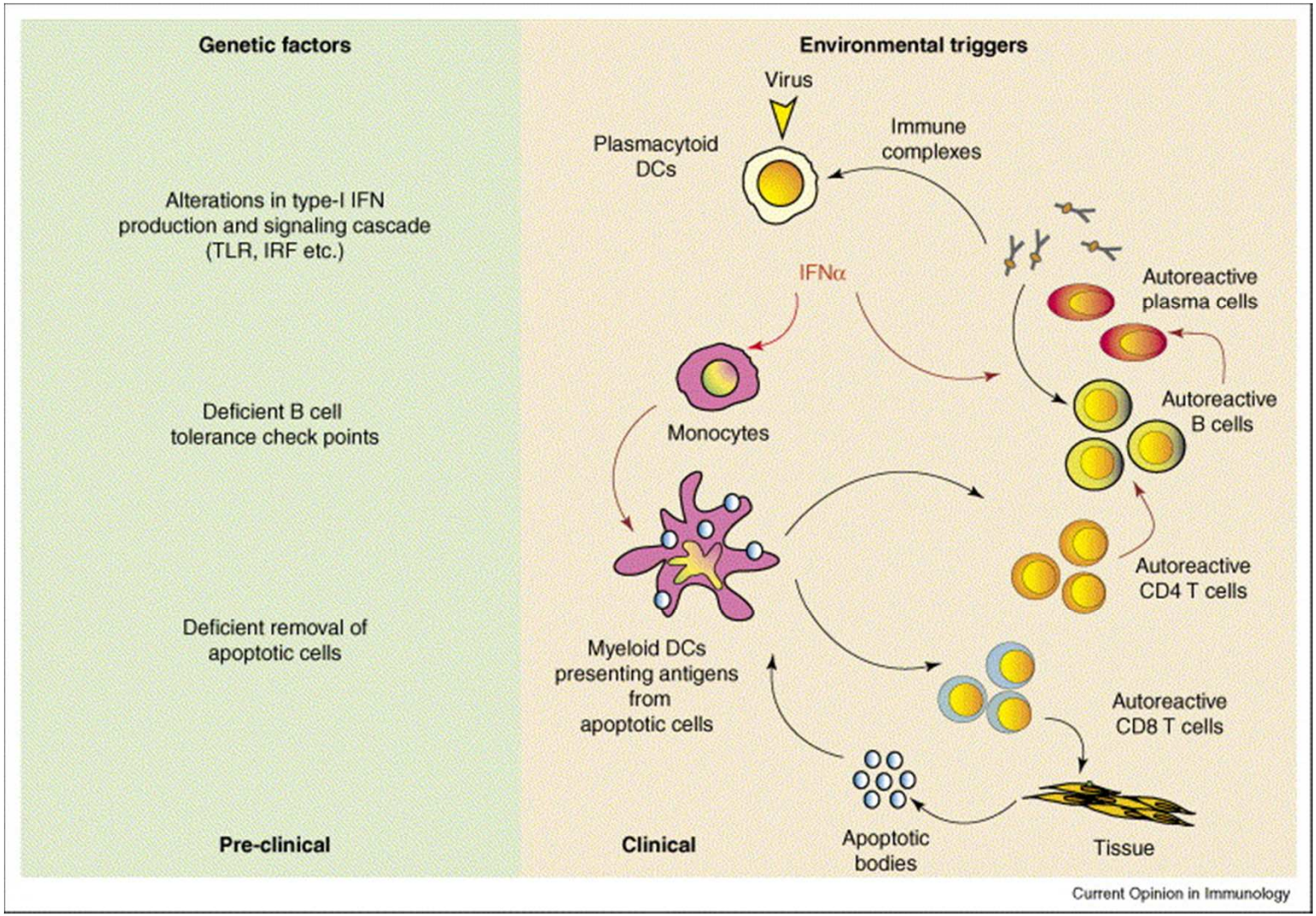
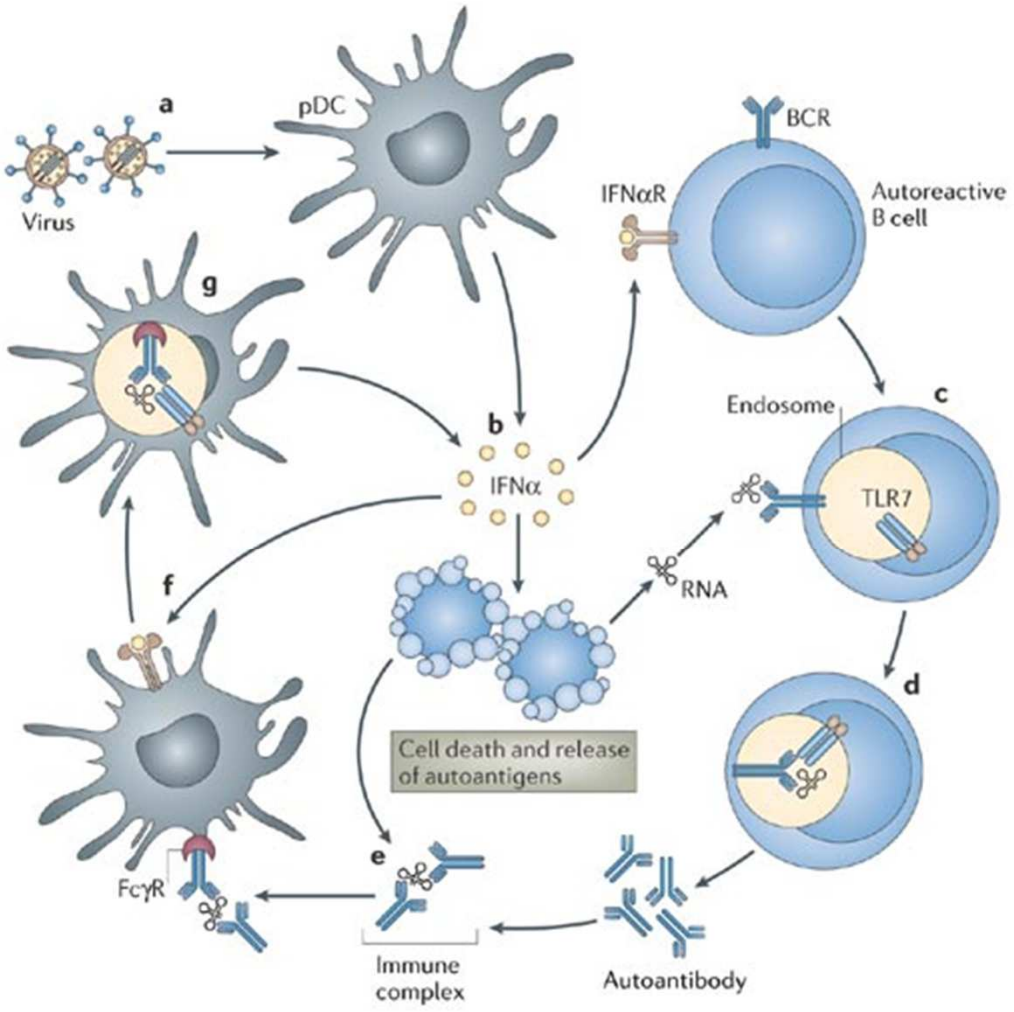
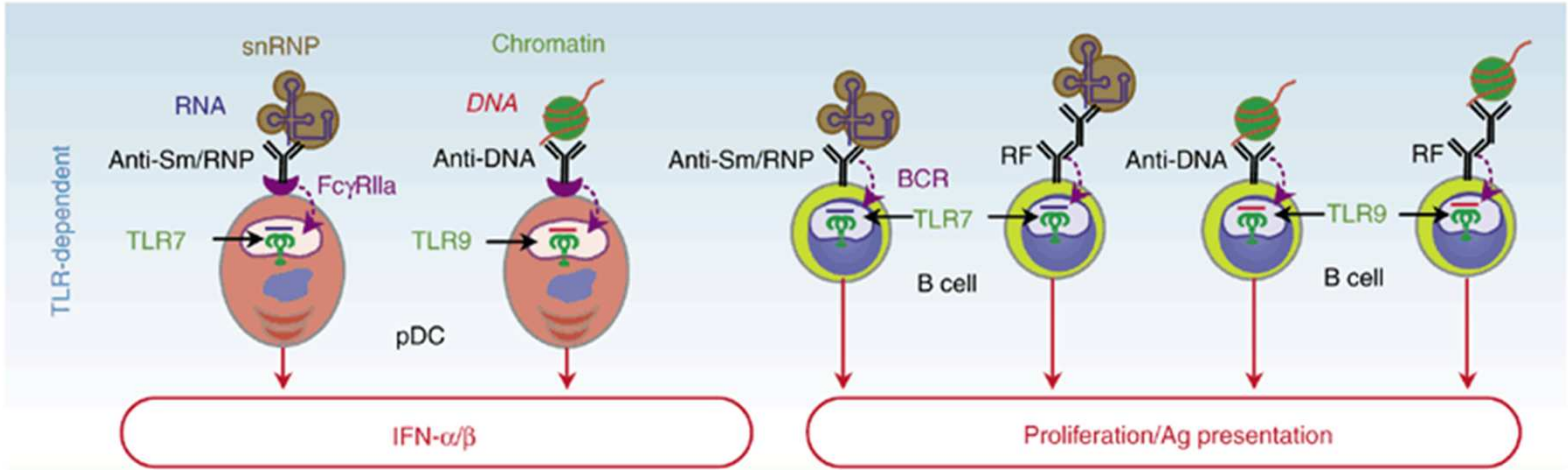
Systemic lupus erythematosus



Virus-induced IFN-α initiates a self perpuating feedback loop to drive autoantibody production



Endogenous stimuli promoting IFN-α production by pDC and activation of B cells



Neutrophils Activate Plasmacytoid Dendritic Cells by Releasing Self-DNA–Peptide Complexes in Systemic Lupus Erythematosus

Lande R et al.

Sci Transl Med

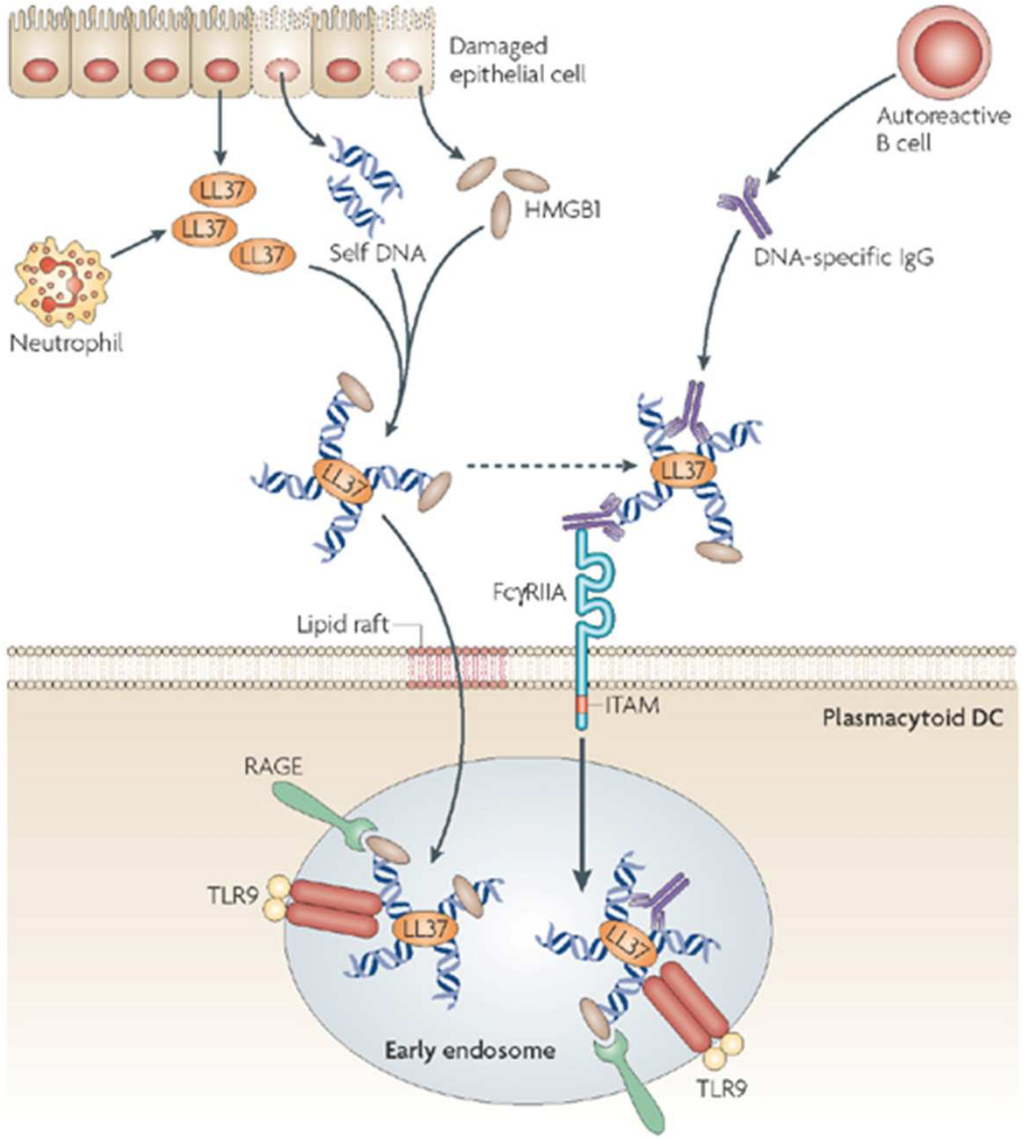
2011;3:73ra19-73ra19

Netting Neutrophils Are Major Inducers of Type I IFN Production in Pediatric Systemic Lupus Erythematosus

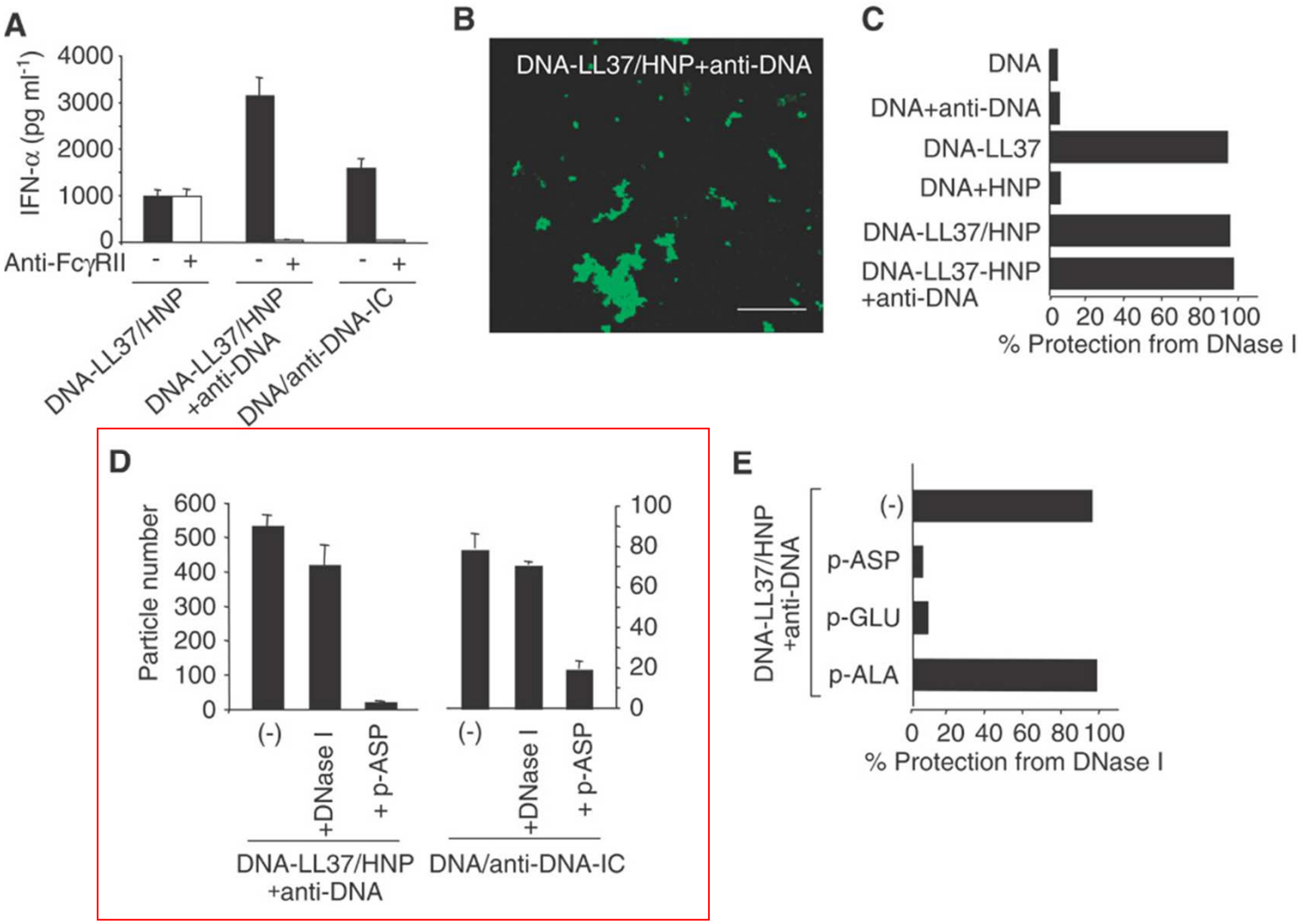
Garcia-Romo G S et al.

Sci Transl Med 2011;3:73ra20-73ra20

Breakdown of innate tolerance to self DNA in autoimmunity

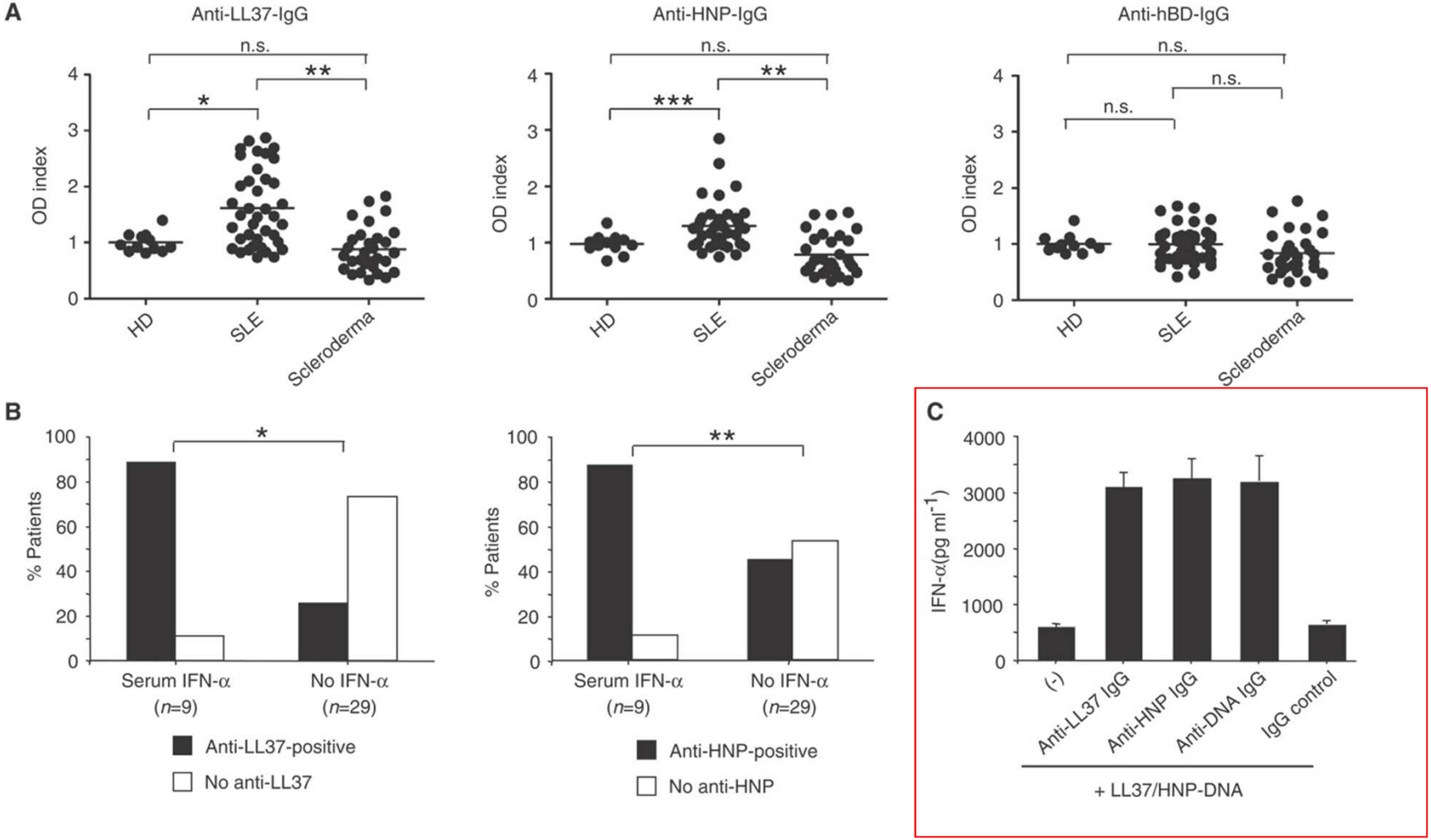


Neutrophil antimicrobial peptides protect DNA in immune complexes from extracellular degradation.

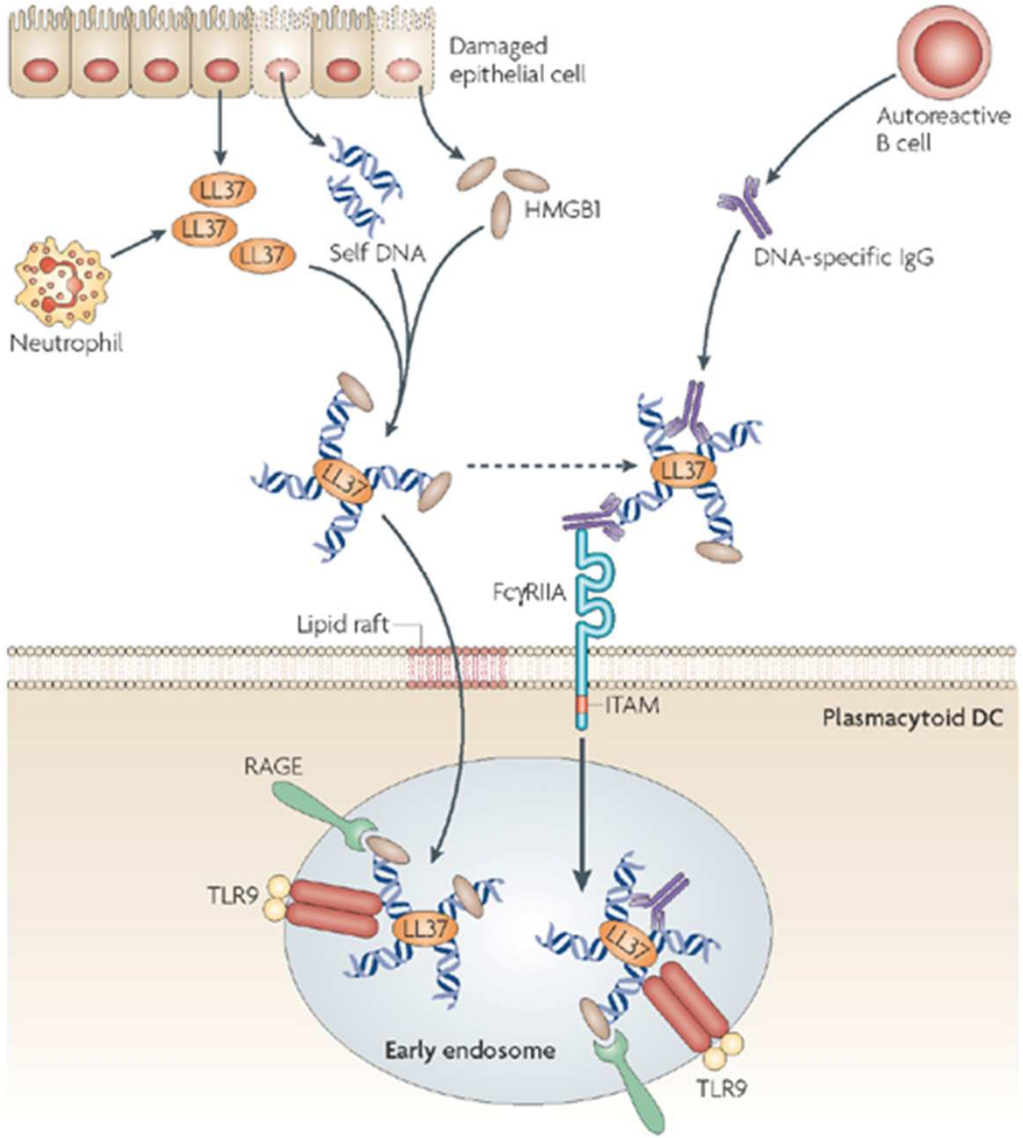


SLE patients develop autoantibodies against neutrophil antimicrobial peptides.

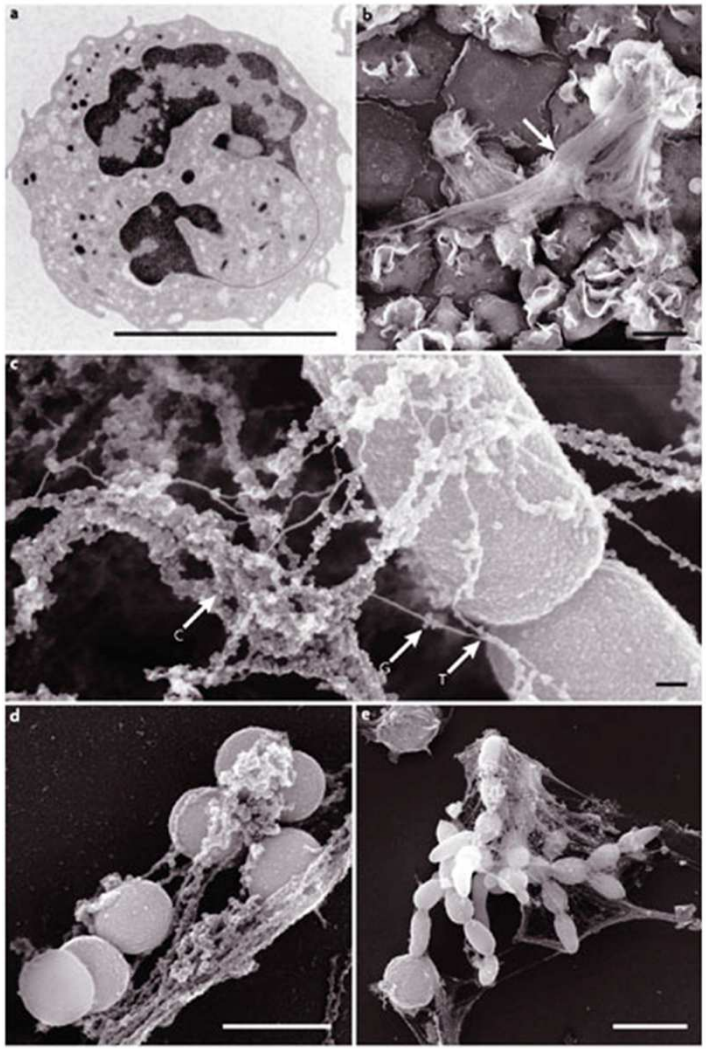
41 % of SLE patients **58 % of SLE patients**



Breakdown of innate tolerance to self DNA in autoimmunity



NETs can trap Gram-negative bacteria, Gram-postive bacteria and fungi

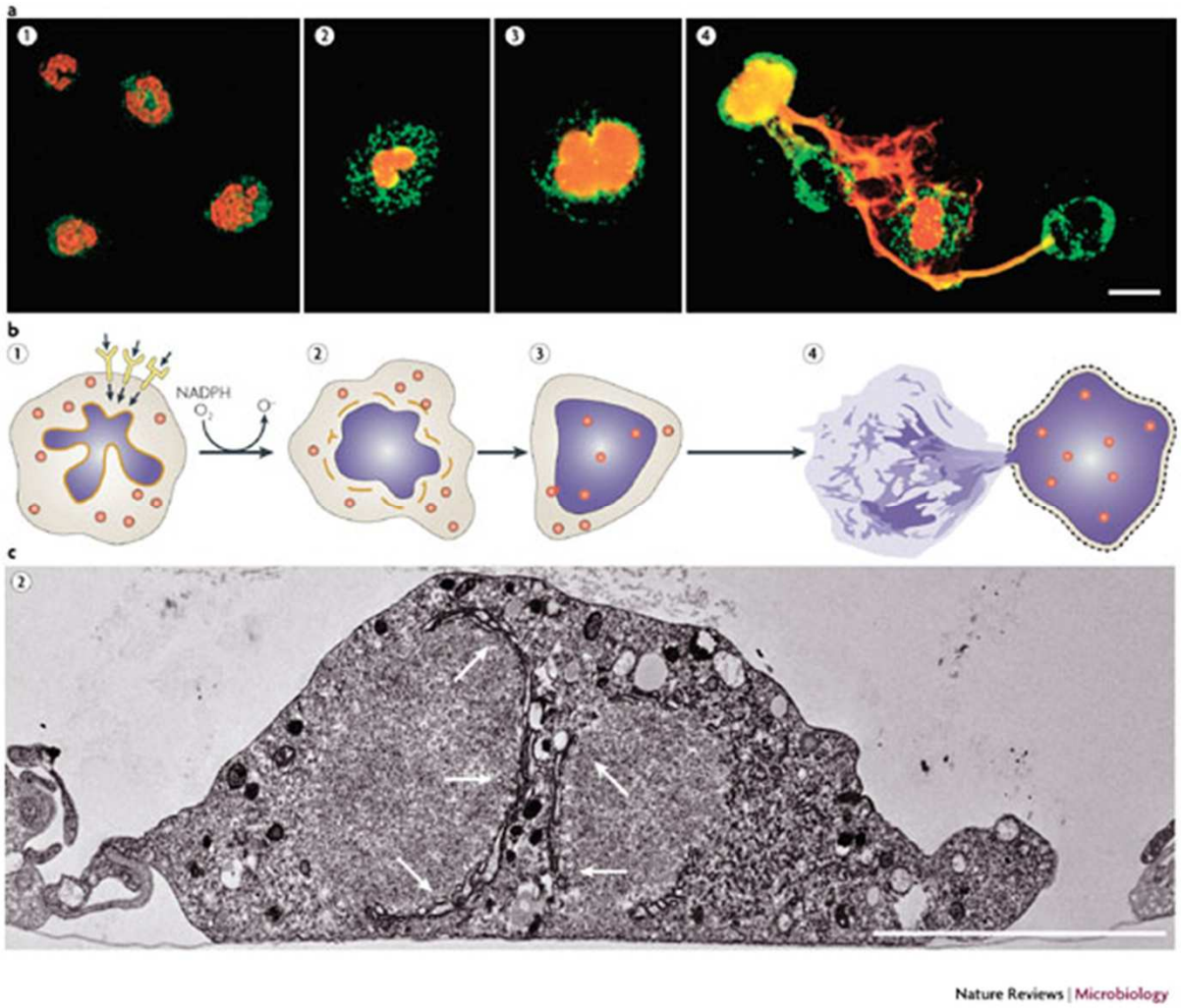


Shigella flexneri

Staphylococcus aureus

Candida albicans

The steps leading to neutrophil extracellular trap (NET) formation



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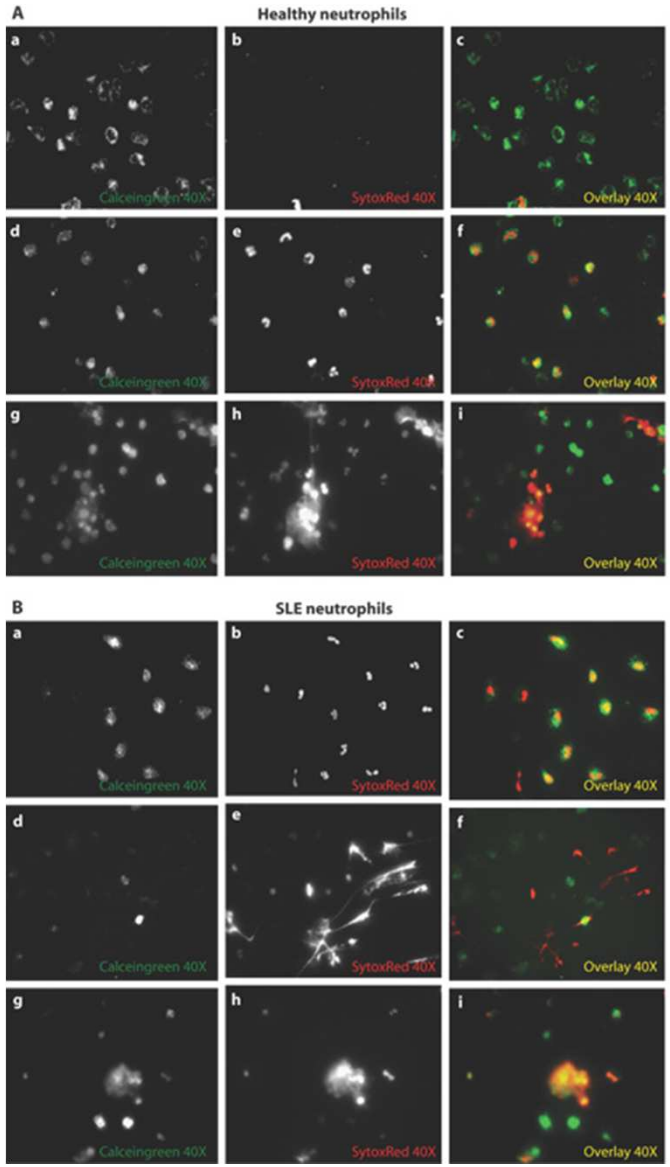
Anti-RNP antibodies induce NETosis of SLE neutrophils.

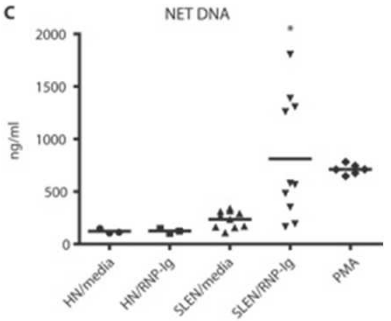
Healthy

- medium
- Anti-RNP
- PMA

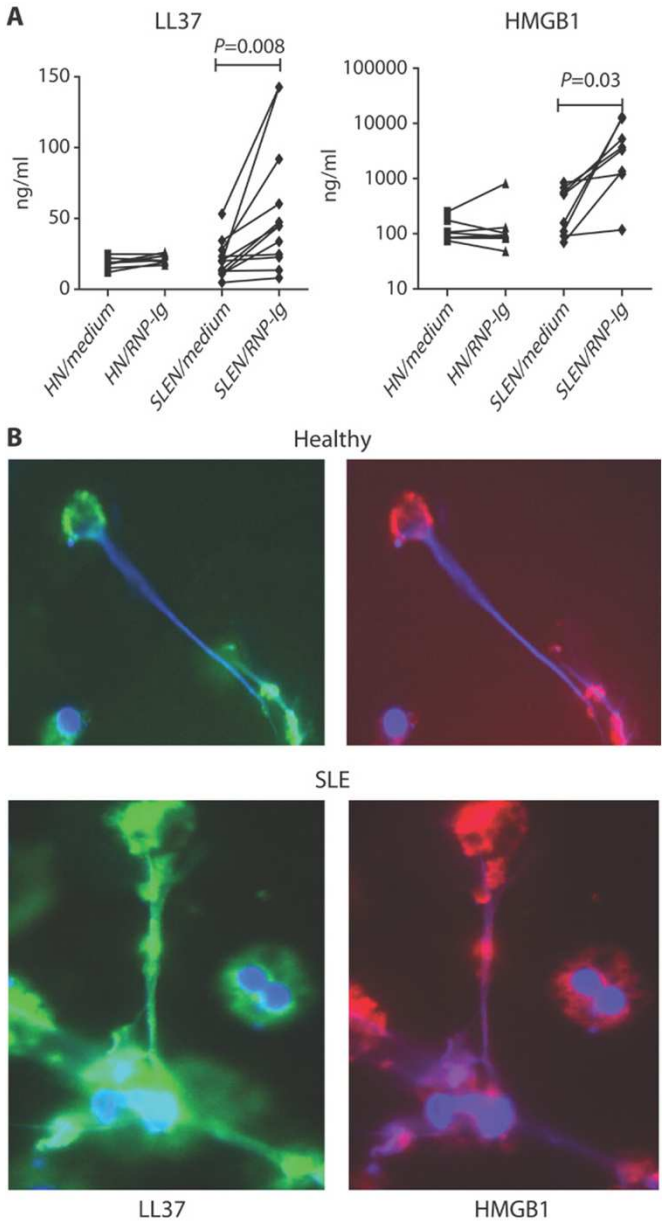
SLE

- medium
- Anti-RNP
- PMA

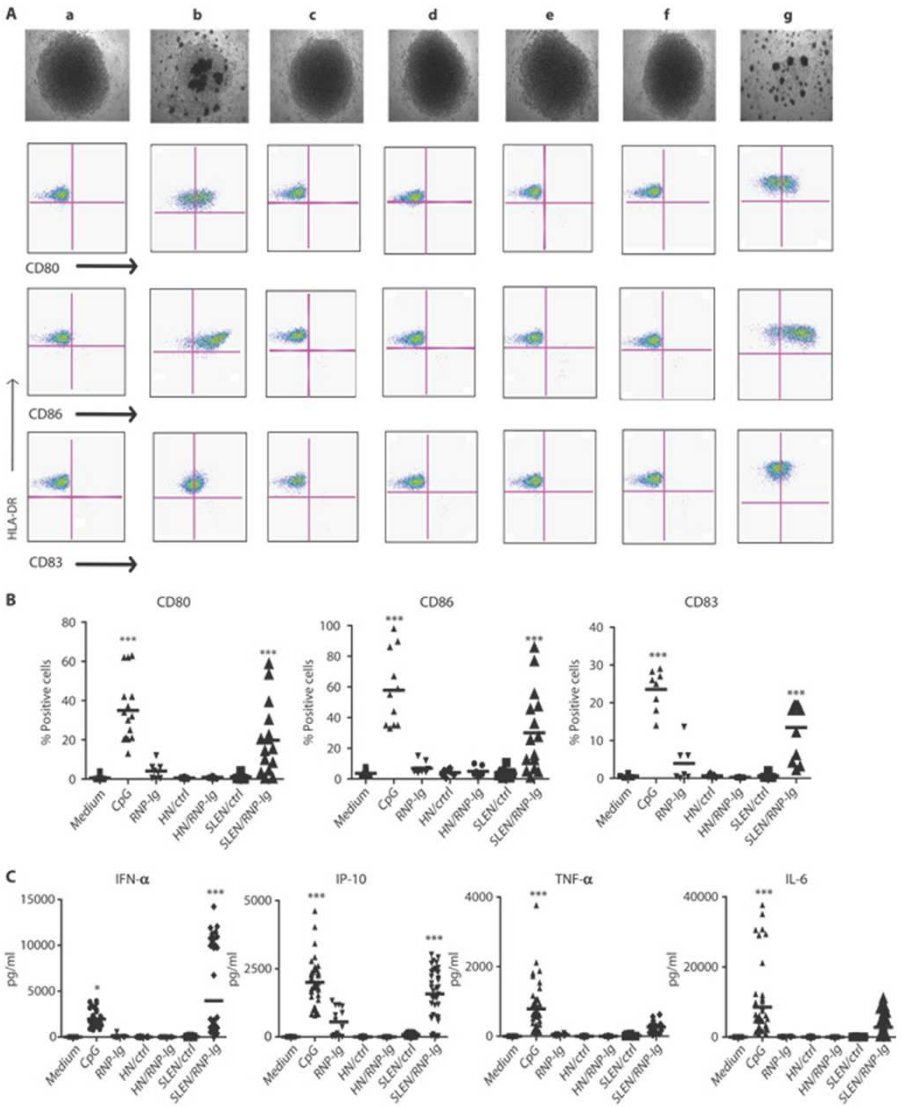




SLE NETs are loaded with LL37 and HMGB1.

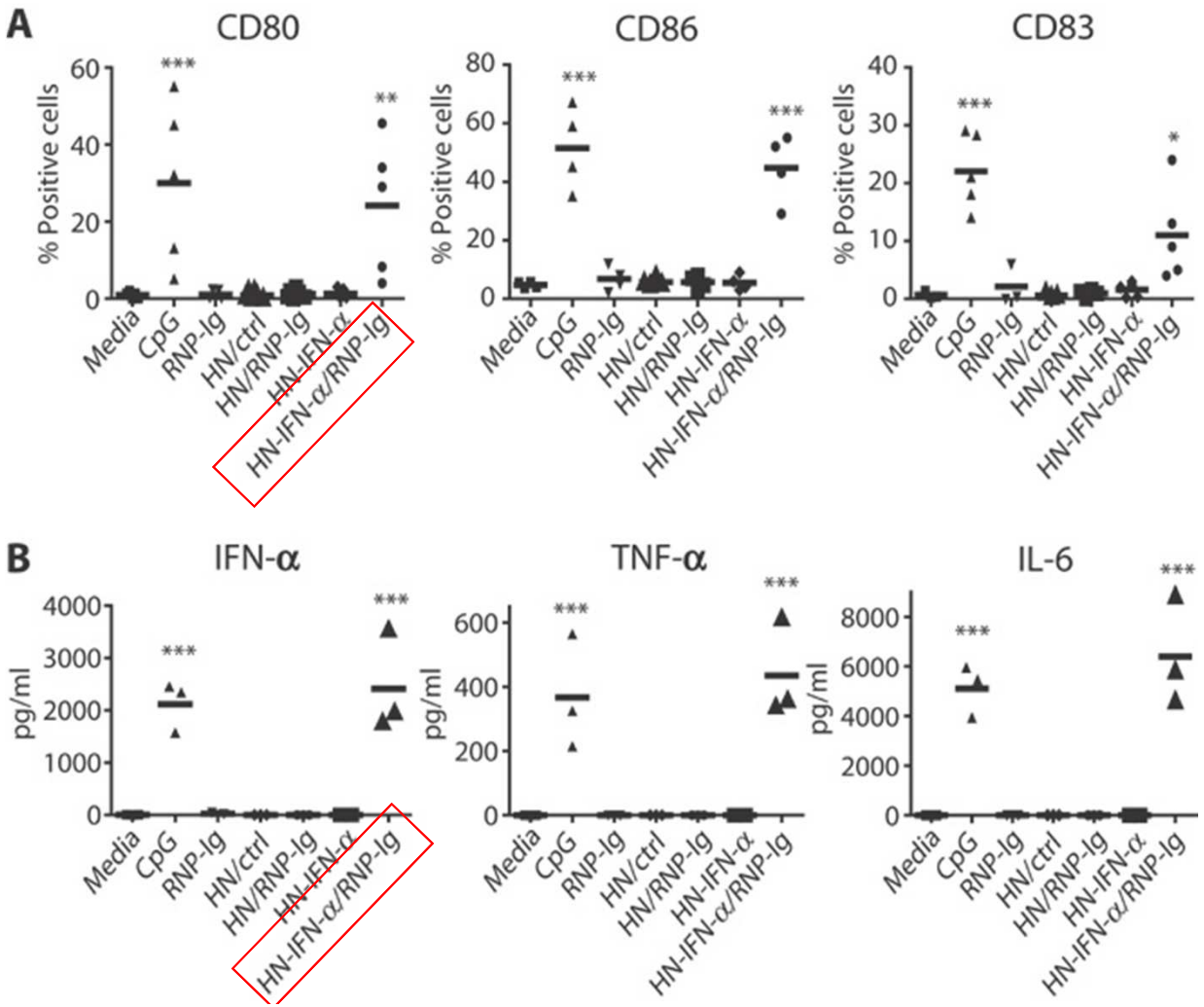


SLE NETs induced by anti-RNP antibodies are potent activators of pDCs.



A- medium
B- CpG
C- Anti-RNP IgG
D- supernatant from healthy neutrophils
E- HN with anti-RNP IgG
F- SLE neutrophils
G- SLE neutrophils it anti-RNP IgG

Treatment of healthy neutrophils with IFN-α renders them susceptible to NETosis upon subsequent activation with anti-RNP antibodies.



Immune cell medley in SLE.