



Preclinical Models of Cutaneous Lupus Erythematosus(CLE)

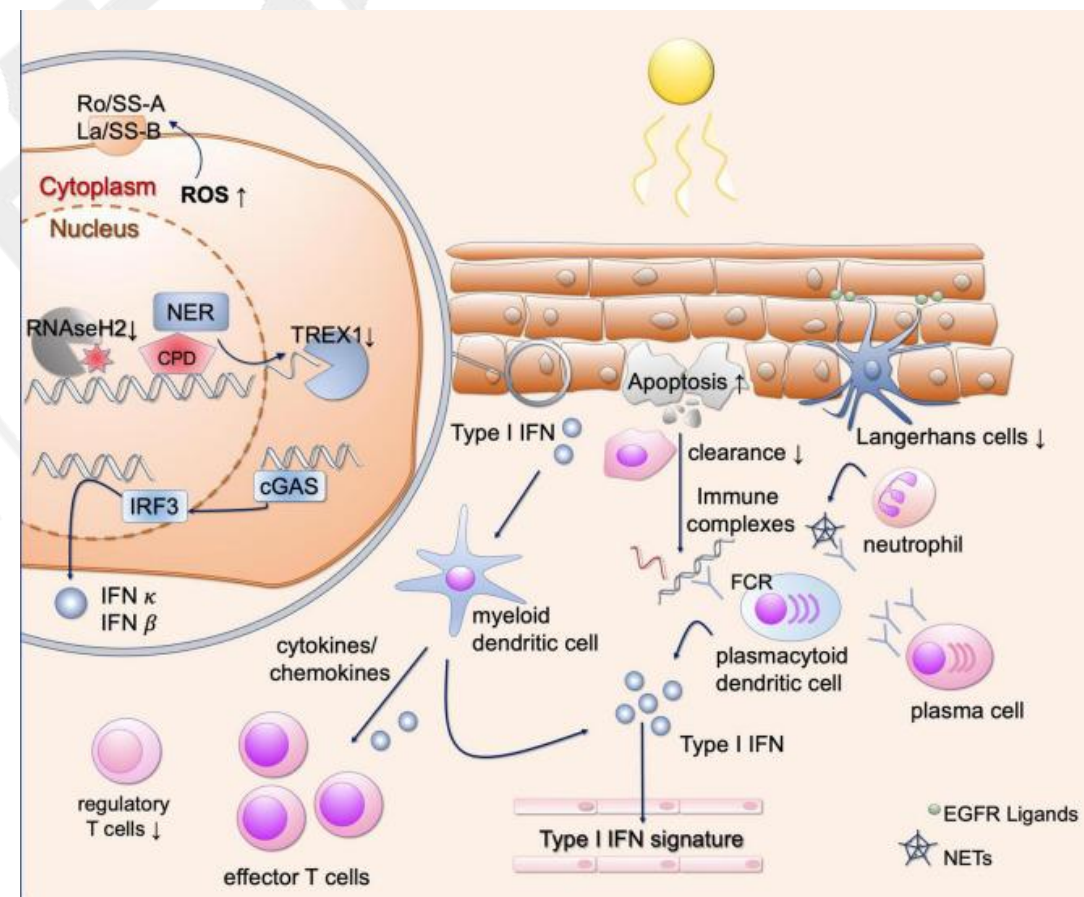
Cutaneous lupus erythematosus(CLE)

Symptoms and Causes

Cutaneous lupus erythematosus (CLE) represents a chronic recurrent autoimmune disease with multiple clinical manifestations ranging from isolated cutaneous lesions to systemic disease with systemic involvement. Each type of skin lupus can be triggered and worsened by sunlight. Acute skin lupus most often involves a prominent rash on the cheeks and nose (“butterfly rash”). Subacute lupus most often presents with a red, raised, scaly rash on sun-exposed areas of the body. It tends to have circular skin lesions or lesions that can look like psoriasis on sun-exposed skin. Discoid lupus starts out as a red to purple scaly rash on the scalp, face, ears, and other sun-exposed areas. Sometimes patients may feel pain or itch.

Models in place:

■ UVB radiation induced CLE model in MRL/lpr mice



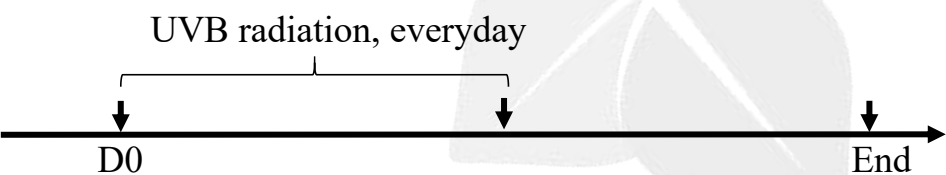
Klein B, Kunz M. Current concepts of photosensitivity in cutaneous lupus erythematosus. *Front Med (Lausanne)*. 2022 Aug 25;9:939594. doi: 10.3389/fmed.2022.939594. PMID: 36091671; PMCID: PMC9452788.

UVB Radiation Induced CLE Model in MRL/lpr Mice

Mechanism

UV light can cause a deterioration of skin lesions as well as flares of systemic lupus erythematosus (SLE) . UV causes DNA damage in keratinocytes, which is repaired by various repair mechanisms. After photoprovocation, certain nucleosome subunits as well as small nuclear ribonucleoproteins were upregulated, which are known as autoantigens in SLE.

UVB Radiation Induced CLE Model in MRL/lpr Mice



Animal	MRL/lpr
Evaluation	Clinical: Body weight,
	Auto-antibody: dsDNA
	Pathology: Kidney HE
	Treatment: NA

UVB Radiation Induced CLE Model in MRL/lpr Mice

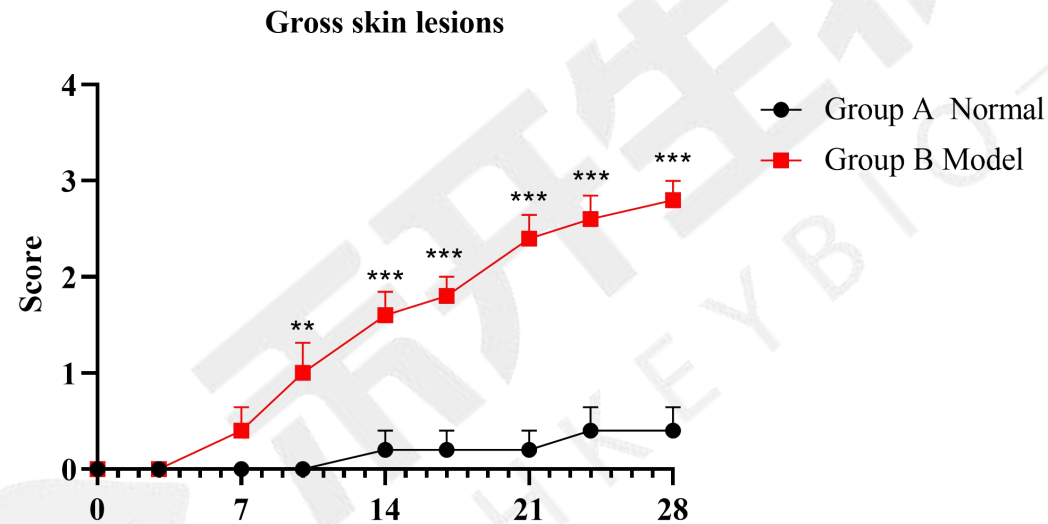


Figure 1 Gross skin lesions

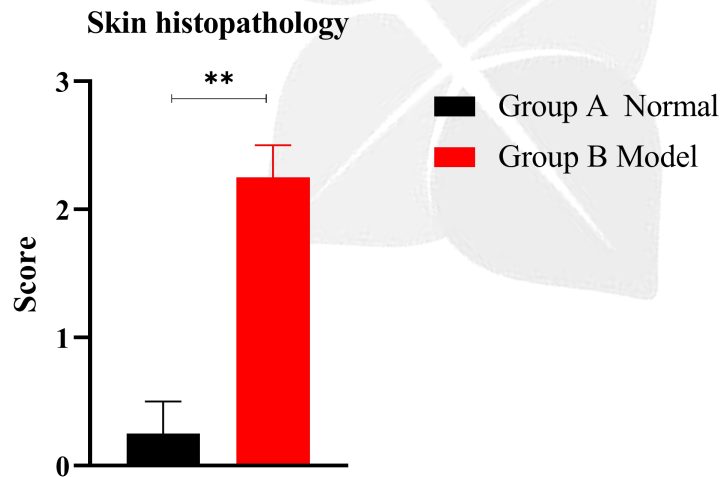


Figure 2 Skin pathology

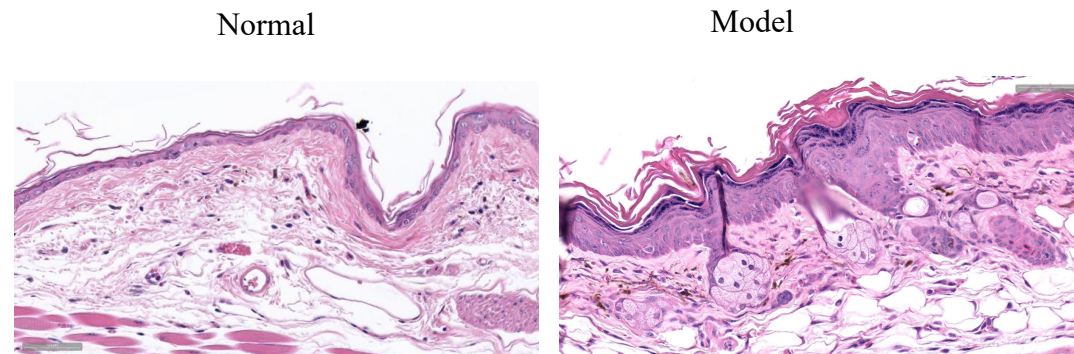


Figure 3 Typical skin histopathology pictures



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