The Immune Response and Follicle Function

Produced for the CRC for Premium Quality Wool undergraduate program by; Dr. Peter Wynn, The University of Sydney.
Immune Response in the Skin

- Cytokines are growth factors released in response to injury and stress
  - Interleukins
    - Produced by dermal fibroblasts and epidermis
    - Unknown if released by the follicle
      - Role in follicle cell proliferation and differentiation unknown
Cytokines and Follicles

IL1α  IL1β

Control  Cyclosporin

Increase in follicle length (mm)

Concentration (ng/ml)

Days

0 0.0001 0.001 0.01 0.1 1 10

0 1 2

0 2 5 7 9 12 16

Peter Wynn
Role of glucocorticoids in the immune response

- Hypothalamus
- CRF
- ACTH
- Glucocorticoids
  - T Lymphocyte Cytotoxic
  - Natural Killer Cell
  - T Lymphocyte Suppressor
  - Epinephrine
  - Melatonin
  - ß-endorphin

- Macrophage
- IL-1
- MAF
- Delayed hypersensitivity
  - mycobacteria
  - Fungi
  - Granuloma agents

- Bacteria
- Virus
- Cell debris
- Particles

- Transplants
- Tumor cells
- Virus

- Fungi
- Granuloma agents
- Transplants
- Tumor cells
- Virus

- IL-2
- IL-2
- IL-2
- IL-2

- Peter Wynn

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