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The role of proteinase 3 (PR3) in neutrophil death signalling

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Background

Apoptosis is the most common cell death of neutrophils, but other types of death may additionally occur under pathological conditions. A research group reported a novel form of programmed necrotic cell death that occurs in neutrophils exposed to certain cytokines upon ligation of CD44. Proteinase 3 (PR3), a serine proteinase mainly stored in the azurophilic granules, has been identified as a major c-ANCA (cytoplasmic anti-neutrophil cytoplasmic antibodies) target in Wegener's Granulomatosis (WG). Elevated expression levels of membrane-bound PR3 (mPR3) are observed in other chronic inflammatory diseases.

It is hypothesized that adhesion molecules (such as CD44) trigger PR3, which is required for the execution of cell death.

Results



Figure 1. TP1-mediated neutrophil death is caused by CD44 stimulation.

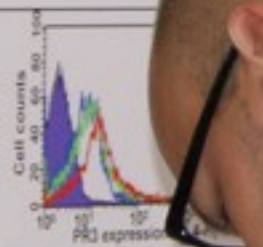


Figure 4. Neutrophils mPR3 expression at CD44 stimulation (15min).



Figure 5. The specificity of Ab-VADnVRDn-EDDnp for PR3 over Elastase and Cathepsin G.





GLUCOCORTICOID HORMONES

Universität Konstanz



Cyclopentanoperhydrophenanthrene nucleus

Steroid hormones from adrenal cortex

Corticosteroids

Mineralocorticoids

Glucocorticoids

Na^+ K^+ H_2O Homeostasis

Glucose, Lipid, Protein Metabolism













































