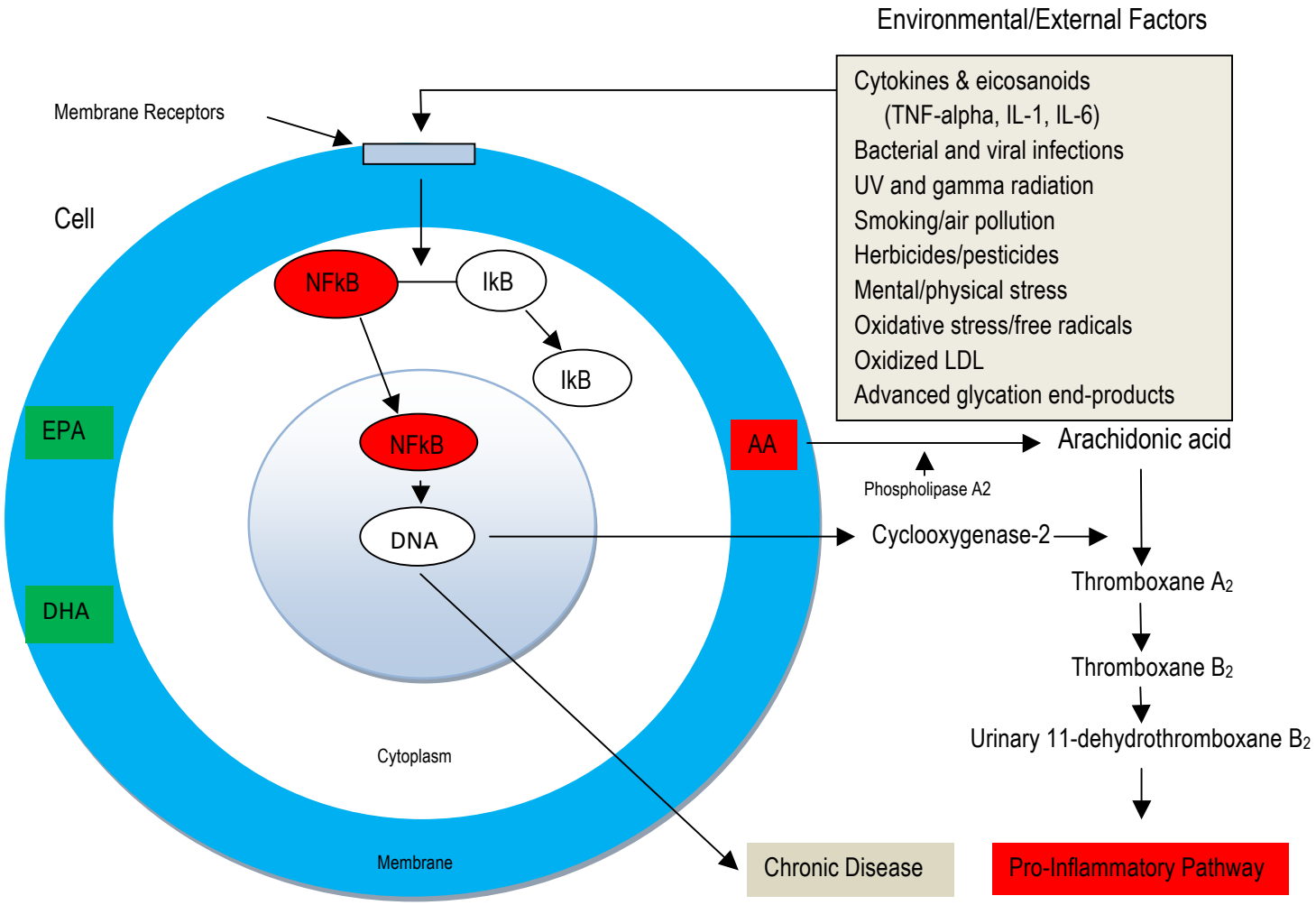
Effect of Environmental/External Factors on Chronic Inflammation

Role of Nuclear Factor kappa B (NFkB)



- Nuclear Factor kappa B (NFkB) is one of a family of transcription factors having an essential role in inflammation and immunity. Regulating gene expression in concert with many other signaling pathways and molecules, NFkB initiates the thromboxane A_2 pathway, part of the inflammation cascade.
- External stimuli lead to activation of NFkB by releasing the inhibitor (IkB). This allows NFkB to enter the cell nucleus and activate the expression of many genes, including cyclooxygenase-2 (COX-2).
- Increased expression of cyclooxygenase-2 is observed in chronic inflammation and chronic disease states.
- The urinary 11-dehydrothromboxane B_2 test:
    - Measures systemic thromboxane A_2 production.
    - Reflects the activity of COX–2.
    - Assists in monitoring the effectiveness of changes in environmental/external factors on chronic inflammation.

CREATIVE CLINICAL CONCEPTS