

**Critical role of novel PKC epsilon (ϵ) in Toll-like receptor-
4/-2-mediated dendritic cell maturation.**

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Important and non-redundant role of novel PKC ϵ in the induction of innate immune responses:

- PKC ϵ deficient mice are unable to clear gram negative and positive bacterial infections:

Macrophages from PKC ϵ $-/-$ strain are deficient in nitric oxide production and NF- κ B activation in response to lipopolysaccharide (LPS).

Bosca et al., J.Exp. Med. 2001.

- PKC ϵ is critical for LPS-induced IL-12 synthesis in human monocyte-derived dendritic cell (DC).

Deficient TH 1 -inducing capacity of LPS-activated DC in presence of a PKC inhibitor.

Aksoy et. al., Eur.J.Imm. 2002.

What is the potential role of PKC ϵ in dendritic cell maturation by TLR ligands?

Effects of PKC ϵ inhibition on:

- ➔ Cellular and physiological processes associated with DC maturation in response to LPS and peptidoglycan:
 - Cytokine gene induction
 - Increase of surface molecule expression
- ➔ Molecular and biochemical analysis of PKC ϵ role downstream of TLR-4/-2-mediated NF- κ B activation: regulation of IL-12 synthesis.

Signaling pathways downstream of TLRs

