- Inflammatory responses mediated by *Propionibacterium acnes*-induced activation of p38 mitogen-activated protein kinase (p38 MAPK or p38) in keratinocytes was investigated.
- In human acne inflammatory lesions, an increased level of phospho-p38 was observed.
- Viable *P. acnes* induced rapid and transient activation of p38 and extracellular signal-related kinase (ERK1/2) and relatively slow but sustained activation of c-Jun N-terminal kinases (JNK1/2) in human keratinocytes.
- Viable *P. acnes* induced the secretion of interleukin-1α (IL-1α), tumor necrosis factor-α (TNF-α), and IL-8 from human keratinocytes.
- SB203580 (a p38α/β inhibitor) and SCIO-469 (a selective inhibitor of p38α) could inhibit phosphorylation of p38 (phospho-p38) and the secretion of cytokines induced by *P. acnes* in cultured keratinocytes.

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