

## Regulation of PKA-Dependent Calcineurin as a Switch in Cell Secretion

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**Abstract :** This study will investigate cyclic adenosine monophosphate (cAMP)/protein kinase A (PKA) dependent calcineurin (Cn), known as protein phosphatase 2 B (PP2B) as well, regulation of chloride ion (Cl<sup>-</sup>) secretion and the release of pro-inflammatory molecules in immune cells such as cytokines. THP-1-derived monocytes, primary human monocytes and the bronchial epithelial cell line (16HBE14o-) were used in this study. The 16HBE14o- cells were chosen as positive control. Hence, to further confirm the expression of cystic fibrosis transmembrane conductance regulator (CFTR), calcium binding protein (S100A10), annexin A2 (AnxA2) and calcineurin A subunit (CnA) in all three cell types, cell lysate was probed against corresponding primary antibodies by immunoblotting. Western blot analyses show the expression of CFTR, AnxA2, CnA and S100A10 in THP-1-derived monocytes and primary human monocytes. In conclusion, CFTR, S100A10, CnA and AnxA2 are expressed in THP-1-derived monocytes and primary human monocytes and regulate Cl<sup>-</sup> secretion. Also, they may play a role in the pro-inflammatory molecules release. The ongoing work will confirm interaction between these proteins in the cell lines.

**Keywords :** annexin A2, calcineurin, CFTR, chloride, monocytes, pro-inflammatory molecules, S100A10

**Conference Title :** ICCF 2017 : International Conference on Cystic Fibrosis

**Conference Location :** London, United Kingdom

**Conference Dates :** May 25-26, 2017