

# ImmunoTools IT-Box-139 Award 2012



**Barbara Maier**

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## Identification of host factors involved in *Streptococcus pneumoniae* recognition

*Streptococcus pneumoniae* are Gram-positive bacteria that colonize the lung and lead to severe diseases like pneumonia, meningitis and sepsis. Several structures of invasive clinical strains of *S. pneumoniae* are known to trigger innate immune responses, i.e. pneumococcal LTA, which is sensed by TLR2, pneumolysin, recognized by TLR4 and others that are less well known(1).

In the current study, we aim to identify new mechanisms of innate immune recognition of *S. pneumoniae* by genetic screening. We use a human cell line that has been isolated from a chronic myeloid leukemia patient. This cell line is a unique opportunity for us to study host factors important in *S. pneumoniae* infection in a human system. We could already show that components of *S. pneumoniae* trigger the secretion of proinflammatory cytokines in this cell line. Currently we are looking for more disease models to screen for. Therefore we want to characterize the leukemia cells in more detail, to have information about more pathogens that elicit an immune response in those cells.

Preliminary FACS analysis revealed that this cell line is of an undifferentiated myeloid origin. To further characterize the differentiation state of those cells, we would like to do extensive FACS studies to analyze the expression profile of the different lineage markers of leukocytes. The antibody box offered by ImmunoTools would be a great chance for us to identify the lineage these leukemic cells belong to and therefore allow us to further study more pathogenic models in a human setting.

(1) Gavin K. Paterson and Carlos J. Orihuela, (2010) Pneumococci: immunology of the innate host response. *Respirology*.

**ImmunoTools** IT-Box-139 for Barbara Maier include 100 antibodies

**FITC** - conjugated anti-human CD1a, CD3, CD4, CD5, CD6, CD7, CD8, CD14, CD15, CD16, CD19, CD21, CD25, CD29, CD35, CD36, CD41a, CD42b, CD45, CD45RA, CD45RB, CD45RO, CD49d, CD53, CD57, CD61, CD63, CD80, CD86, HLA-DR, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

**PE** - conjugated anti-human CD3, CD4, CD8, CD11b, CD15, CD14, CD18, CD19, CD20, CD21, CD22, CD31, CD33, CD38, CD40, CD45, CD45RB, CD50, CD52, CD56, CD58, CD62p, CD72, CD95, CD105, CD147, CD177, CD235a, HLA-ABC, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

**PE/Dy647** -tandem conjugated anti-human CD3, CD4, CD8, CD14, CD19, CD20, CD25, CD54

**APC** -conjugated anti-human CD2, CD3, CD4, CD8, CD10, CD11a, CD11c, CD14, CD16, CD27, CD37, CD42b, CD44, CD45, CD59, CD62L, CD69, CD71, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

[DETAILS](#)