**Grant Year** * 2007

**Project Title** * Comparison of early immune recognition of Staphylococcus aureus in nasal carriers and non-carriers

**Name** * Isabelle Bekeredjian-Ding

**Country** * Germany

**Short summary of project outcome (max. 100 words)**

Plasmacytoid dendritic cells (pDC) are potent type I interferon producers and play a tolerogenic role in the mucosa. Our results showed that pDC activation by S. aureus is preceded by immune complex (IC) formation with S. aureus-specific IgG and FcgRIIA-mediated uptake of IC. All donors tested had serum antibody titers sufficient to induce IFN-I secretion, independent of the carriage status. Using serum samples from children deficient in IgG subclasses we showed that IgG1 and IgG3 are required for pDC activation. Thus, pDC do not function as mediators of early innate immune defense but shape the memory response to S. aureus.

**Published articles originating from your Research Grant project**

Parcina, M., Wendt, C., Götz, F., Zähringer, U., Heeg, K., Bekeredjian-Ding, I.
Staphylococcus aureus–induced IFNa production represents a species–specific memory response.

Follow-up study:
Pathogen–Triggered Activation of Plasmacytoid Dendritic Cells Induces IL–10–Producing B Cells in Response to Staphylococcus aureus.

**Articles in preparation from your Research Grant project**
a Perspectives article is in preparation for Frontiers in Immunology

**Communications originating from your Research Grant project (e.g. oral, poster, extended abstract)**

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