This Week's Citation Classic™

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Dickler H B & Kunkel H G. Interaction of aggregated γ-globulin with B lymphocytes. *J. Exp. Med.* **136**:191-6, 1972.
[Rockefeller University. New York, NY]

This paper describes a simple method for the detection of Fcγ receptors on human mononuclear cells. The binding of immunoglobulin complexes to Fcγ receptors on B lymphocytes was demonstrated and the requirements of this ligand-receptor interaction were partially characterized. [The *SCI*® indicates that this paper has been cited in over 800 publications since 1972.]

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"This work was done in collaboration with, and in the laboratory of, Henry G. Kunkel. Kunkel's recent untimely and unexpected death has saddened us all. He will be sorely missed as a friend, mentor, and brilliant scientist.

"I arrived in Kunkel's laboratory at Rockefeller University following the completion of my training in internal medicine at New York Hospital. After the highly structured environment of medical training, and in view of my complete lack of research experience, I was shocked when Kunkel said, in essence, here is a desk and here is a bench and what would you like *to* do? I managed to reply that I would like to go to the library. During the first few months in the laboratory, the intoxication of freedom and responsibility kept me going when all my ideas and projects failed utterly.

"Kunkel, aware of the demonstration by Basten and colleagues of a receptor for immunoglobulin on murine B lymphocytes,[1] suggested that these cells might utilize Clq (a protein of the complement system) as the receptor. With the help of two other postdoctoral fellows, Vincent Agnello and Frederick Siegal, I set out to evaluate this possibility. The initial experiments showed binding of anti-Clq antibodies to a sub-population of human peripheral blood mononuclear cells. However, subsequent experiments indicated that this binding was not due to the specificity of the antibodies but due to the fact that, through naiveté, I was using an acidic medium which caused aggregation of the antibodies. I then began using heat aggregated immunoglobulin as a model for studying the binding of complexes to mononuclear cells. These studies resulted in my first publication, which has now been selected as a *Citation Classic.*

"I think a number of factors result in this paper being cited frequently. 1) The method is simple. 2) Fcγ receptors are one of a number of markers used to characterize mononuclear cell subpopulations. 3) The functional role of Fcγ receptors on B lymphocytes and other cell populations is being actively investigated in a number of laboratories.[2,3]

"These initial studies piqued my curiosity as to the functional role of B lymphocyte Fcγ receptors and other surface membrane molecules in regulation of immune responses. I have sought answers to this question ever since."[4-6]

1. **Bisten A. Miller J F A P. Sprent J** & **Pye J.** A receptor for antibody on B lymphocytes. I. Method of detection and functional significance. *J. Exp. Med.* **135:**610-26, 1972. (Cited 550 times.)
2. **Kolsch E, Oberbarncheidt J, Bruner K & Heuer J.** The Fc-receplor: its role in transmission of differentialion signals. *Immunol. Rev.* 49:61-78. 1980.
3. **Phillips** N E & **Parker D** C. Fc-dependent inhibition of mouse B cell activation by whole anti—antibodies. *J. Immunology* **130**:602-6. 1983.
4 **Dickler H B.** Lymphocyte receptors for immunoglobulin. *Advan Immunol.* 24:167-214. l976. (Cited 270 times.)
5. ....., Interactions between receptors for antigen and receptors for antibody—a review. *Mol. Immunol.* 19:1301-6, 1982.
6. **Shenk R R. Weissberger H Z** & **Dickler H B.** Anli-idiotype stimulation of antigen-specific antigen-independent antibody responses in vitro. II. Triggering of B lymphocytes by idiotype plus anti-idiolype in the absence of T lymphocytes. *J. Immunology.* In press. 1984.