

The Chemistry of Opsonization: The Covalent Binding of C3 to Target Surfaces

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Complement is the effector arm of the humoral immune system. The key component is C3. Elimination of foreign cells and particles involves the binding of C3 on their surfaces. How C3 can bind to the surfaces of diverse biochemical properties and physical forms was described in the late 1980. An internal thioester in C3 becomes exposed upon activation thus allowing C3 to react with hydroxyl groups on all biological surfaces by way of ester bonds. In addition, C3 is only able to bind to surfaces on which it is activated since water will react with the exposed thioester and prevent the activated C3 to bind to host cells at a distance. This textbook description was generally accepted since the 1980 but the chemical mechanism was not worked out in the late 1990s. In this seminar I shall describe the experiments leading to a unique chemical mechanism for one of the most important reaction in immunology.

Date: 28 March 2003, Friday
Time: 4 pm
Venue: LT 20
Host: Prof Hew Choy Leong

All are welcome