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Febe van Maldegem  
**IMMUNOGLOBULIN GENE ALTERATIONS  
IN NORMAL AND NEOPLASTIC B CELLS**

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**IMMUNOGLOBULIN GENE ALTERATIONS IN NORMAL AND NEOPLASTIC B CELLS**

In the year of the 150<sup>th</sup> anniversary of Darwin's *On the origin of species*, his sketch of the tree of life (front cover) has become quite a familiar picture. This dissertation is not about Darwin, but you might say it is all about evolution. B cell affinity maturation depends on 'Darwinian' mutation and selection, as Burnet acknowledged when formulating his "Clonal selection theory of acquired immunity". Only the B cells that acquire the highest affinity for the antigen will be allowed to survive the germinal centre reaction and reproduce ('survival of the fittest'). The same way of thinking is applied when discussing cancer. Cancer cells gradually accumulate DNA damage, which, in most cases, will be disadvantageous to the cells. But those cells that acquire mutations enhancing their growth rate or survival will eventually outgrow the others. Could Darwin have suspected how his theory would become fundamental in our way of thinking about general biological principles, when he carefully added the words "I think...?"

*I think*

