Computer Enhanced Analysis of Images from Immunohistochemistry

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Due to the high prevalence of immunohistochemistry (IHC) in medicine and biology, the need of fast and accurate semi-quantitative analysis of such IHC images arises. Nowadays such analysis is performed manually by experts in the field but due to this fact the process depends on subjective factors and the large number of samples is provoked the creation of a solution designed to automate the process and the statistical processing of the results. The current research presents an innovative approach for performing subjective-free computer quantitative analysis and for the vast localization and clusterization of colored regions in IHC images which represent different kinds of antigens/antibodies, as well as comparison of IHC images, which is considered by experts as a big advantage since this could reduce the analysis time needed. The proposed methods in this research were applied in two independent medical researches, yielding significant results and positive feedback.

Awards Won: