

## Abstract

NF- $\kappa$ B (Nuclear- Factor kappa B) a transcription factor is involved in tumorigenesis, inflammation, autoimmune diseases. p21 has a dual role and acts as apoptotic as well as anti apoptotic factor. In the present study Cooperativity of NF- $\kappa$ B and p21 in breast cancer patient was studied. For this purpose first of all p21 promoter was analyzed using bioinformatics which showed that it has at least two NF- $\kappa$ B consensus binding sites, Therefore during breast cancer when p53 get inactivated NF- $\kappa$ B can drive the expression of p21. The expression analysis of p21 and NF- $\kappa$ B at mRNA level showed that the both get increased during breast cancer when compared to control samples. Moreover H&E staining was done to grade the cancer tissues and the analysis showed that the increased expression of p21 and NF- $\kappa$ B was directly proportional to severity of the disease. This is a preliminary data that can be utilized to study in detail the cross talk between the two candidates.