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## Analysis of TLR4 signaling and PI3K/Akt pathway activation in renal cancer cell line: A clinical approach

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Cancer is uncontrolled growth of normal cells caused by a variety of genetic defects that occur in genes that encode for proteins involved in cell growth. There is a link between inflammation and cancer suggests that the mechanisms contributing to inflammation may also be critical for tumor formation. In present investigation, possible expression of TLR4 in renal cell lines of human, rabbit and rat has been tried to observe and finding demonstrate less expression of TLR4 noted in HEK293 cell lines while no expression observed in other two cell lines (NRK52E and RKK13). These findings suggest the possible role of inflammation in cancer. As LPS is a natural ligand for TLR4 activation there result is little bit controversial as compare to other studies similar to this but we know that LPS is natural component of bacteria those are responsible for various contamination but as we know kidney do not face any direct contact with bacterial infection so our finding is positively counterpart with the logic. These findings showed that TLR4 is possibly did not participate in renal cell carcinoma like other cancers *viz.* colorectal tumorigenesis and other cancers. On the other the phosphorylation of Akt, suggests that LPS related activity for Akt phosphorylation with all three cell lines but as the findings of PCR do not show any related activity of TLR4 with these cell lines. The development of renal cell carcinoma TLR4 did not play any direct role, alternatively Akt phosphorylation suggest there are certain other probable factor which may possibly alter the expression level. These factors are might be MyD88, activation of mTor pathway or cell proliferation process

### Biography

Mr. Suresh Kumar Jatawa has pursued Masters in Science (Biotechnology) in the year 2005 from Central University, Sagar, India. He is currently pursuing his doctoral studies at School of Biotechnology, Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal, India, in the field of Medical Biotechnology (Cancer Biology). He will be soon submitting his thesis for the award of degree. He has published more than 15 publications in well reputed international and national journals

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