Conclusion

PPP was able to bind in both ALK and IGF-IR. Molecular docking carried by Auto Dock Vina reveals that the binding affinity of PPP with IGF-IR is -7.5 kcal/mol and with ALK is - 8.8 kcal/mol. Results from molecular docking reveal that PPP not only binds and inhibits IGF-IR, but it has high binding affinity with the ALK. Through cytotoxicity assay the observed IC-50 value was 0.501µM and 1/30 dose concentration was used for further studies that is 16nM. Decrease fold expression of IGF-IR gene was observed after the treatment of PPP for 24 hours and expression of different signaling molecules was also hampered after the treatment. Same result was observed when protein level in validated by western blot that there is decrease level of protein express after the exposure. In localization study it was found that IGF-IR expression is low when treated with PPP for 24 hours IGF-IR signaling is also corelated with different microRNAs. It was observed that after the exposure of PPP to SH-SY5Y cells microRNA expression was disturb. microRNA 223 and let -7 was upregulated after PPP treatment and microRNA -9 was downregulated. Cells migration was also affected after the treatment and shows less migration. In cell death analysis cells were undergoing program cell death but not going under the necrotic death. PPP a known potent inhibitor of IGF-IR has also binding affinity with ALK. Along with altered activity of these two RTK, change in activity of PI3K/AKT was also modulated that alters the oncogenic cross talk and imply apoptosis in NB cells.