

## CHAPTER 31

### MEDICAL SCIENCES IMMUNOLOGY

#### Doctoral Theses

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**Structural and Functional Evaluation of c-Kit Tyrosine Kinase : Implications Proliferation, differentiation and Survival of Hematopoietic Stem Cells.**  
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#### *Abstract*

Studies c-kit tyrosine kinase which was employed as therapeutic molecule for enhanced recovery of hematopoietic system, as it has extensive potential to transduce different stage specific signals specific for self-renewal, proliferation, differentiation and survival of quiescent hematopoietic progenitors (Lin<sup>-</sup>Sca<sub>1</sub><sup>+</sup>c-Kit<sup>low</sup>/c-Kit<sup>+</sup>/murine or CD34<sup>+</sup>/ Human). The basic structural and functional determinants of c-Kit tyrosine proto-oncogene is helpful in determining and implicating the crucial signal involved in regeneration of hematopoietic compartment in bone marrow cells in lethally irradiated hosts.

#### *Contents*

1. General introduction. 2. Review of literature. 3. Functional analysis of c-Kit transduced murine bone marrow cells. 4. Structural analysis for stem cell factor receptor, c-Kit. 5. General discussion. 6. Summary and conclusion. 7. Future prospects. Bibliography.