

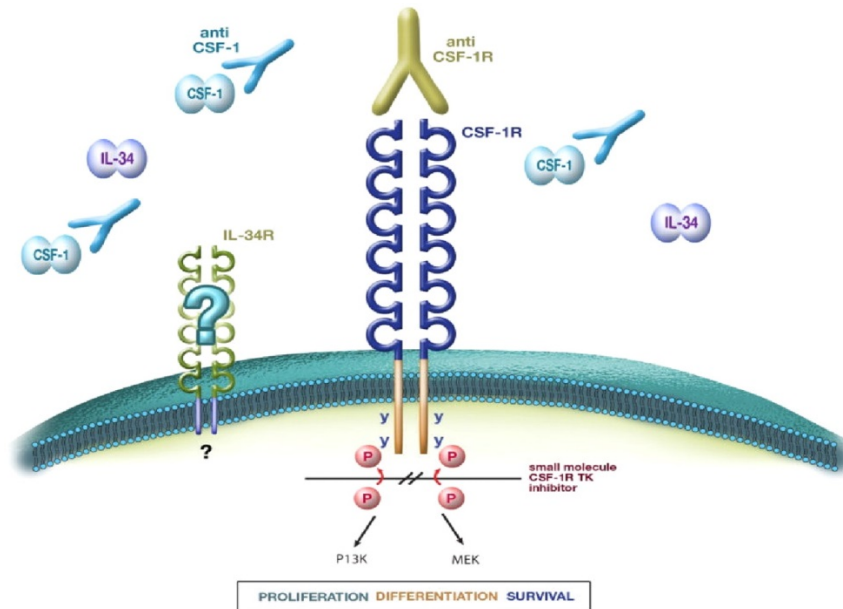
Title

CSF-1R kinase and its inhibitors: A Literature Review

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Highlights

- CSF-1R kinase is a receptor for a cytokine called colony stimulating factor 1.
- CSF-1R acts as cell-surface receptor for CSF-1 and IL-34, it plays an essential role in the regulation of survival, proliferation and differentiation of hematopoietic precursor cells.
- Interlaken-34 is more species specific than CSF-1.
- Overexpression of the receptor/ligands may be associated with different disease conditions such as bone osteolysis, inflammation and cancer.
- Two strategies were developed to target CSF-1R kinase signaling: Anti-bodies and inhibitors.
- Inhibitors of different classes: Cyanoimidazolecarboxamides, Pyridines, Aminopyrimidine, quinolones and cinnilones showed a potent inhibitory effect on CSF-1R/CSF-1.
- Miscellaneous compounds are showing different ranging potencies toward the CSF-1R.
- H-bond patterns in CSF-1R stabilizing the auto-inhibited inactive state of CSF-1R.