Oncogene RET

National Cancer Institute

Source

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Human Oncogene RET is a mutated variant of RET Gene, which encodes Tyrosine-Protein Kinase Receptor RET, a type I membrane protein receptor for Glial Cell Line-Derived Neurotrophic Factor with an extracellular cadherin-like domain and important in neural crest development. Some oncogenic RET point mutations cause constitutive kinase activation. PTC1 oncogene involves fusion of RET kinase to the H4 dimerization leucine zipper. In PTC6, RET is fused to the N-terminal part of Transcriptional Intermediary Factor-1-alpha. In PTC7, RET is fused to a C-terminal part of TIF1-gamma. Oncogenic RET mutations are associated with Hirschsprung's disease, Multiple Endocrine Neoplasia, pheochromocytoma, hyperparathyroidism and medullary thyroid cancer. Oncogene RET disrupts normal cell function.