

## C-kit protein expression correlated with activating mutations in KIT gene in oral mucosal melanoma

Type:

Article

Abstract:

C-kit is a trans-membrane receptor tyrosine kinase (RTK) encoded by the proto-oncogene KIT located at 4q11-12. Gain-of-function mutations arising to c-kit activation independent of its ligand were observed in various tumors related to germ cells, mast cells, and interstitial cells of Cajal. C-kit also participates in melanocyte development; hence, its involvement in oral mucosal melanoma (OMM) tumorigenesis was investigated. Immunohistochemistry and mutation analysis were performed using 18 cases of human primary OMM. Results revealed 16 cases positive to c-kit protein. Atypical melanocytes expressed c-kit. All in situ components expressed c-kit, but only four cases exhibited intense expression in the invasive component. Missense mutations were observed in four cases, and two of those correlated with increased protein expression. C-kit expression in atypical melanocytes suggests the role of c-kit in the early stage of OMM tumorigenesis. C-kit protein expression correlated with activating mutations indicating the pertinent role of the proto-oncogene KIT in the tumorigenesis of OMM.

Author	<ul style="list-style-type: none"><li>• Rivera, R. S.</li><li>• Nagatsuka, H.</li><li>• Gunduz, M.</li><li>• Cengiz, B.</li><li>• Gunduz, E.</li><li>• Siar, C. H.</li><li>• Tsujigiwa, H.</li><li>• Tamamura, R.</li><li>• Han, K. N.</li><li>• Nagai, N.</li></ul>
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