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# Oncogene K-Ras

National Cancer Institute

## Source

National Cancer Institute. *Oncogene K-Ras*. NCI Thesaurus. Code C16766.

Human Oncogene K-Ras is a mutated variant of KRAS2 Gene, which encodes two alternative isoforms of monomeric p21 K-RAS protein, a monomeric GTPase involved in transmembrane signal transduction that alternates between inactive GDP-bound and active GTP-bound forms. K-Ras is activated by a guanine nucleotide-exchange factor and inactivated by a GTPase-activating protein. Mitogen-stimulated RAS stabilizes MYC protein and enhances MYC accumulation by the RAS/RAF/MAPK pathway, which appears to inhibit the proteasome-dependent degradation of MYC. Implicated in a variety of human tumors, mutations of specific amino acids activate RAS to transform cells. KRAS is involved in malignancy much more often than is HRAS. Oncogene K-Ras disrupts normal cell function.