RhoA, a novel tumor suppressor or oncogene as a therapeutic target?

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mechanisms, such as nonsense or frame-shift mutations in these tumor types. The recurrent nature of RhoA mutations inAITL, PTCL and diffuse-type gastric carcinoma strongly suggests that these hotspot mutations result in a gain-of-function alteration in an unidentified signaling pathway; nevertheless, in the absence of any supporting data, the question still remains whether RhoA is an oncogene or tumor suppressor gene.

From the cancer treatment perspective, the recurrent mutational hotspots of this protein represent ideal targets for small molecule inhibitors as therapeutic reagents. If the RhoA mutants act in a dominant negative fashion, such molecules could disrupt their interaction with the wild-type protein to restore RhoA function. On the other hand, if RhoA mutants are oncogenes, the suppression of their activities by these molecules should inhibit tumorigenesis. In either case, the future development of these therapeutic reagents holds promise for cancer patients with RhoA mutations.

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References


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