Aurora B kinase and passenger proteins as targets for cancer therapy

Hoang T.M.N., Delacour-Larose M., Molla A.
Department of Cytology, Histology, Embryology and Biophysics, Faculty of Biology, Hanoï University of Sciences, 334 Nguyen Trai road, Hanoï, Viet Nam; Laboratoire de Glaciology et de Géophysique de l'Environnement, UMR CNRS/UJF 5183, 38042 Saint Martin d'Hères, Cedex, France; INSERM U823, UJF, Institut Albert Bonniot, 38 706 La Tronche Cedex, France

Abstract: The chromosome passenger complex (CPC) is composed of five proteins: Aurora B kinase, Borealin, INCENP, Survivin and TD-60. CPC functions as an oligo-enzyme, each member activating the catalytic subunit, Aurora B kinase. CPC controls chromosome congression, bidirectional tension on kinetochores and spindle checkpoint signalling as well as cytokinesis completion. CPC is thus a key regulator during mitosis; CPC proteins are exclusively expressed during mitosis and are up-regulated in many tumours. Their overexpression correlates with the level of genomic instability within tumours. Altogether, this leads to the proposal of passenger proteins as potential targets for cancer therapy. This review describes the chromosomal passenger complex and its involvement in mitosis and the different strategies developed towards its inactivation. © 2008 Bentham Science Publishers Ltd.
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Correspondence Address: Molla, A.; INSERM U823, UJF, Institut Albert Bonniot, 38 706 La Tronche, Cedex, France; email: annie.molla@ujf-grenoble.fr

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- Hoang, T.M.N., Department of Cytology, Histology, Embryology and Biophysics, Faculty of Biology, Hanoï University of Sciences, 334 Nguyen Trai road, Hanoï, Viet Nam
- Delacour-Larose, M., Laboratoire de Glaciology et de Géophysique de l'Environnement, UMR CNRS/UJF 5183, 38042 Saint Martin d'Hères, Cedex, France
- Molla, A., INSERM U823, UJF, Institut Albert Bonniot, 38 706 La Tronche Cedex, France

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