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The Spindle Assembly Checkpoint and Its Defects in Human Cancer

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ABSTRACT Chromosome segregation is one of the most complex, conserved and astonishingly accurate processes whose inner molecular details have just beginning to be understood. These events are controlled by the spindle assembly checkpoint, which is mediated by the Bub-Mad pathway and finally Ub-mediated degradation of the regulators of sister chromatid cohesion by APC/C. This pathway also bifurcates into two – one is the Mad1, Mad2, Mad3, Bub1, Bub3 and the other is Bub2, Bfa1 pathway. Recent studies have implicated hMad2, as one of the key regulator of the pathway. Any defect in the pathway is supposed to lead to aneuploidy in tumor cell.

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