

Sister Chromatid Resolution

Sister chromatid resolution was first described in scanning electron micrographs of mammalian chromosomes (Sumner 1991). However, more commonly sister chromatid resolution is defined as separation of the sister chromatids from one another, based on observation of Carnoy's fixed, Giemsa stained chromosome preparations. In this context, the ability to observe resolved chromatids employs the term 'resolved' in the same way as it is used standardly in microscopy; i.e. it is the ability to differentiate two points, or in this case the ability to differentiate two coiled chromonemas. Although resolved normally by late prophase, the sisters remain aligned (parallel) until anaphase onset in the majority of control cells. Previous descriptions of sister resolution have included in their definition the separation of the sister chromatid axes, an event that occurs concomitantly with sister resolution in untreated cells (Giménez-Abián et al. 1995; Giménez-Abián et al. 2000).

References:

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- Giménez-Abián, J.F., Clarke, D.J., Mullinger, A.M., Downes, C.S., and Johnson, R.T. 1995. A postprophase topoisomerase II-dependent chromatid core separation step in the formation of metaphase chromosomes. *J Cell Biol* **131**: 7-17.
- Sumner, A.T. 1991. Scanning electron microscopy of mammalian chromosomes from prophase to telophase. *Chromosoma* **100**: 410-8.