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Effect of meso-Hexestrol, a Synthetic Estrogen, on S-Tubulin*

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We have reported that meso-hexestrol, a synthetic estrogen, inhibits microtubule assembly and induces microtubule proteins into twisted ribbon structures. On the other hand, Serrano *et al.* proved that S-tubulin, which lacks the C-terminal moiety of tubulin subunits, assembles into sheet structures in the absence of microtubule-associated proteins (MAPs). In the present investigation, we attempted to clarify whether meso-hexestrol could induce the ribbon structure from S-tubulin. meso-Hexestrol delayed the initiation of polymerization of S-tubulin into sheet structures in a dose-dependent manner below 50 μM. But the effect of meso-hexestrol on S-tubulin was reduced in the presence of either tau or microtubule-associated protein 2 (MAP2) in a MAPs-concentration-dependent manner. At concentrations higher than 100 μM, *meso*-hexestrol inhibited the polymerization of S-tubulin into sheet structures, without forming ribbon structures. The present results may indicate that meso-hexestrol interacts with S-tubulin, and its interaction is affected by MAPs.

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