

# Abstract

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## Specific accumulation of gamma- and delta-tocotrienols in tumor and their antitumor effect in vivo.

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**BACKGROUND:** In contrast to extensive studies on tocopherols, very little is understood about tocotrienols (T3).

**METHODS:** We evaluated the antitumor activities of gamma-T3 and delta-T3 in murine hepatoma MH134 cells in vitro and in vivo.

**RESULTS:** We found that delta-T3 inhibited the growth of MH134 cells more strongly than gamma-T3 by inducing apoptosis. In C3H/HeN mice implanted with MH134, it was found that gamma-T3 and delta-T3 feeding significantly delayed tumor growth. On the other hand, both T3 had no significant effect on body weight, normal-tissue weight and immunoglobulin levels. Intriguingly, we found that T3 was detected in tumor, but not in normal tissues.

**CONCLUSION:** These results, to our knowledge, are the first demonstration of specific accumulation of gamma-T3 and delta-T3 in tumors and suggest that T3 accumulation is critical for the antitumor activities of T3.

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