

アデノウィルス5型のE1B遺伝子が発現しない時、  
G<sub>0</sub>期特異的温度感受性変異株tsJT60は  
非許容温度で条件致死変異株となる。

後藤 祐三\*, 辻 順\*, 田野中浩一, 石橋 貞彦\*,  
白木和子\*\*, 井出利憲\*

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tsJT60, A Cell Cycle G<sub>0</sub>-ts Mutant, Becomes Lethal at  
Non-Permissive Temperature by Transformation with  
Adenovirus 5 When the Expression of  
E1B Gene Is Lacking

Yuso GOTO,\* Jun NINOMIYA-TSUJI,\* Kouichi TANONAKA,  
Sadahiko ISHIBASHI,\* Kazuko SHIROKI\*\*  
and Toshinori IDE\*

tsJT60, a temperature-sensitive (*ts*) mutant cell line of Fischer rat, is viable at both permissive (34°C) and non-permissive (39.5°C) temperatures. The cells grow normally in exponential growth phase at both temperatures, but when stimulated with fetal bovine serum (FBS) from G<sub>0</sub> phase they re-enter S phase at 34°C but not at 39.5°. When tsJT60 cells were transformed with adenovirus (Ad) 5 wild type, they grew well at both temperatures, expressed E1A and E1B genes, and formed colonies in soft agar. When tsJT60 cells were transformed with Ad5 dl313, that lacks E1B gene, the transformed cells grew well at 34°C but failed to form colony in soft agar. They died very soon at 39.5°C. 3Y1 cells (a parental line of tsJT60) transformed with dl313 grew well at both temperatures, although neither expressed E1B gene nor formed colonies in soft agar. The phenotype of being lethal at 39.5°C of dl313-transformed tsJT60 cells was complemented by cell fusion with 3Y1BU<sup>r</sup> cells (5-BrdU-resistant 3Y1), but not with tsJT60TG<sup>r</sup> cells (6-thioguanine resistant tsJT60). These results indicate that the lethal phenotype is related to the *ts* mutation of tsJT60 cells and also to the deletion of E1B gene of Ad5.

**抄録** 温度感受性変異株*tsJT60*は牛胎児血清で増殖刺激した時、34℃ではGo期からS期へ進行できるが39.5℃では進行できない。*tsJT60*をアデノウイルス (Ad) 5型で形質転換するとE1A,E1B 遺伝子を発現し、34℃,39.5℃でよく増殖した。E1B 遺伝子の欠損したAddl313株で形質転換した*tsJT60*は、39.5℃で急速に死滅した。dl313 株で形質転換した3Y1 細胞は39.5℃でも死滅しなかった。*tsJT60*のdl313株による39.5℃の条件致死の形質は3Y1により相補された。以上の結果は、*tsJT60*におけるdl313株による条件致死の形質が、*tsJT60*の温度感受性変異とAdのE1B遺伝子の欠損に關与することを示している。

\* Institute of Pharmaceutical Sciences, University School of Medicine

広島大学医学部総合薬学科

\*\* Instiute of Medical Science, University of Tokyo

東京大学医科学研究所