

Supplement 2. Safe Handling of Life Science Experiment

Appendix 2-3 Authorized Host - Vector System

(1) B1 Level Host-Vector System

a. EK1

EK1 is a host-vector system that has a genetically and physiologically well-known E.coli K12 strain (a kind of E. coli with no toxicity and low viability under natural conditions) or a derivative of E.coli K12 as a host, and plasmid which has no conjugation ability and cannot be transferred to other bacteria, or bacteriophage as a vector. In this case, the host-vector system should not contain any plasmid that has host conjugation ability, or generally-adopted bacteriophage.

b. SC1

SC1 is a host-vector system that has a laboratory stock strain of yeast *S. cerevisiae* as a host and has plasmid or mini chromosome as a vector.

c. BS1

BS1 is host-vector system that has a derivative of *Bacillus subtilis*, *B. subtilis* Marburg 168 strain, a strain with multiple nutritional mutants against amino acid or nucleobase as a host and plasmid that has no conjugation ability and cannot be transferred to other bacteria, or bacteriophage as a vector.

d. A host-vector system that has **cultured cells of animals and plants** (only the cells not intended for differentiation) as a host (excluding the case that infectious virus particle is caused)

e. A host-vector system that has **cultured insect cells** (only the cells not intended for differentiation) as a host and has baculovirus as a vector

(2) B2 Level Host-Vector System

EK2

EK2 is a host-vector system that allows live cells with genetically-modified molecules to decrease by less than 1/1 hundred million after 24 hours under the conditions other than special culture conditions by using a combination of the hosts shown on the left side of the table below (hosts that satisfy the conditions for EK1 and have extremely low survival rate under the conditions other than special culture conditions due to genetic defect) and the vectors shown on the right side of the table below (vectors that have high host dependence and extremely low transmissibility to other live cells).

Host	Vector
*1776	pSC101 pCR1 pMB9 pBR313/pBR322/pBR325/pBR327 pDH24 pGL101 YIp1 YEp2/YEp4 YIp5 YEp6 YRp7 YEp20/YEp21/YEp24 YIp26/ YIp27/ YIp28/ YIp29/ YIp30/ YIp31/ YIp32/ YIp33v pKY2662/pKY2738/pKY2800
DP50 sup F	*WES*B *gtAL0*B Charon21A
E. coli K12	*gtvJZ-B
DP50/DP50 sup F	Charon3A/ Charon4A/ Charon16A/ Charon23A/ Charon24A