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Author	泉, 雅子(Izumi, Masako) 宮澤, 宏(Miyazawa, Hiroshi) 鎌倉, 高志(Kamakura, Takashi) 山口, 勇(Yamaguchi, Isamu) 遠藤, 豊成(Endo, Toyoshige) 花岡, 文雄(Hanaoka, Fumio)
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Blasticidin S-Resistance Gene (*bsr*) : A Novel Selectable Marker for Mammalian Cells*

Masako IZUMI,**, Hiroshi MIYAZAWA,** Takashi KAMAKURA**, Isamu YAMAGUCHI**, Toyoshige ENDŌ, and Fumio HANAOKA**,

泉　雅子**, 宮澤　宏**, 鎌倉高志**, 山口　勇**,
遠藤　豊成, 花岡文雄**

Blasticidin S is a microbial antibiotic that inhibits protein synthesis in both prokaryotes and eukaryotes. The blasticidin S-resistance gene (*bsr*), isolated from *Bacillus cereus* K55-S1 strain, was inserted into pSV2 plasmid vector and introduced into cultured mammalian cells by transfection. The *bsr* gene was integrated into the genome and conferred blasticidin S resistance on HeLa cells. The transfection frequency of the *bsr* gene was as high as that of the aminoglycoside phosphotransferase gene, the so-called *neo* gene, which is a representative selectable marker for mammalian cells. Transfectants in which several copies of *bsr* had been integrated into the genome were highly resistant to blasticidin S. Furthermore, blasticidin S killed the cells more rapidly than G418, which is conventionally used as a selective drug for the *neo* gene. Thus *bsr* is concluded to be useful as a drug-resistance marker for mammalian cells.

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** 理化学研究所