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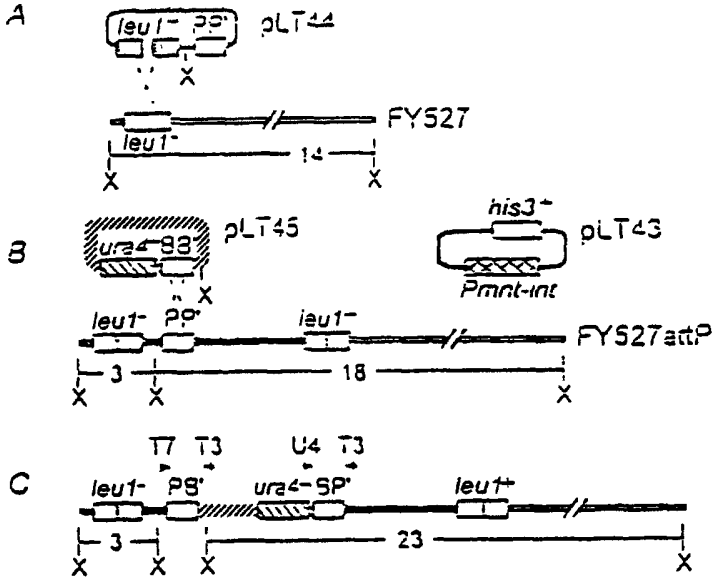
*[Continued on next page]*

(54) Title: DNA RECOMBINATION IN EUKARYOTIC CELLS BY THE BACTERIOPHAGE PHIC31 RECOMBINATION SYSTEM




(57) Abstract: This invention provides methods for obtaining specific and stable integration of nucleic acids into eukaryotic cells. The invention makes use of site-specific recombination systems that use prokaryotic recombinase polypeptides, such as the ΦC31 integrase, that can mediate recombination between the recombination sites, but not between hybrid recombination sites that are formed upon the recombination. Thus, the recombination is irreversible in the absence of additional factors. Eukaryotic cells that contain the recombinase polypeptides, or genes that encode the recombinases, are also provided.

WO 01/07572 A2