Synopsis of Original Research Paper

Roles of Mast Cells on Skin Hypersensitivity: Development of Evaluating Systern by Using Mast CellDeficient Animals

Yukihiko Kitamura

Medical School, Osaka University

Mast cell-deficient rats and mice were characterized in molecular and cellular levels. The *Ws* locus of rats and the *W* locus of mice encode the *c-kit* receptor tyrosine kinase. The *Ws* locus is a 12 base deletion at the tyrosine kinase domain of *c-kit*. The W^{jic}, W^{n} and W^{f} are three different point mutations of the tyrosine kinase domam of the *W* (*c-kit*) locus. The molecular characteristics of the W^{jic}, W^{n} and W^{f} mutant alleles were consistent with the numbers of skin mast cells in heterozygous and homozygous mutant animals. The coding region of the W^{sh} mutant allele was normal, but the *c-kit* gene was not transcribed in cultured mast cells derived from the spleen of W^{sh}/W^{sh} mice.