Docket #: S98-180

CD81-deficient Mice

CD81 deficient mice have been created. These were the first CD81-/- mice to be described. They were found to undergo normal T cell maturation, have normal B cell development, but express lower levels of CD19.

Reference:
Maecker, Holden T, et al., Normal Lymphocyte Development but Delayed Humoral Immune Response in CD81-Null Mce, J. Exp. Med. Vol. 185, No. 8, 1997.

Applications

- Studying the phenotypic consequences of lacking CD81 in a whole organism.
- Use of CD81-/- mice as an animal model in which to study infectivity of Hepatitis C virus (HCV). Human CD81 has recently been shown to be the cellular receptor for HCV (Science, 282: 938-941, 1998). Currently the only organisms in which the virus can be grown are human and chimpanzees. CD81-/- mice into which the gene encoding human CD81 is introduced as a "knocked in" will provide a model in which to study HCV infection in a small animal.
- Use of CD81-/- mice for the production of anti-CD81 antibodies.

Publications

- Maecker HT, Levy S, "Normal lymphocyte development but delayed humoral immune response in CD81-null mice.", J Exp Med 1997 Apr 21;185(8):1505-10
- Maecker HT, Do MS, Levy S, "CD81 on B cells promotes interleukin 4 secretion and antibody production during T helper type 2 immune responses.", Proc Natl Acad Sci U S A 1998 Mar 3;95(5):2458-62
- Levy S, Todd SC, Maecker HT, "CD81 (TAPA-1): a molecule involved in signal transduction and cell adhesion in the immune system.", Annu Rev Immunol 1998;16:89-109

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