T cell Transfer Colitis in Rag2 Knockout Mice (model RAGN12)

In the adoptive transfer model of colitis, naïve T cells are harvested from a donor mouse and injected into an immunodeficient mouse with the same genetic background to induce colitis. Taconic Biosciences’ Rag2 knockout mice on the C57BL/6NTac background (model RAGN12, B6.129S6-\textit{Rag2}^{tm1Fwa} N12) are widely used as a recipient for this important colitis model. Model RAGN12 is available at both Murine Pathogen Free™ (MPFTM) and Excluded Flora (EF) Health Standards to meet the needs of different research facilities. MPFTM animals may generate more consistent data in this application, whereas EF animals meet the stringent requirements of facilities co-housing other immunodeficient animals. Please contact us for more information.

Example T cell transfer colitis data
(provided by an anonymous pharmaceutical company)

Female Rag2 knockout mice on a C57BL/6NTac background (Model RAGN12) at the MPFTM Health Standard were used as recipients and female C57BL/6NTac mice were used as donors. Naïve CD4\(^+\) T cells were isolated from peripheral lymph nodes, using a gating strategy to deplete regulatory T cells (CD4\(^+\)CD45RB\(^{hi}\)CD25\(^{-}\)), and injected into recipients at varying doses (0.5 \(\times\) 10\(^6\), 1 \(\times\) 10\(^6\) or saline, as a control).

(Left) Body weights of Rag2 knockout mice following administration of CD4\(^+\)CD45RB\(^{hi}\)CD25\(^{-}\) T cells. Mean values are indicated and bars represent SEM; \(*P<0.05\), \(**P<0.01\), ***P<0.001; \(n=4-6\).

(Right) Representative gross colon pathology and splenomegaly of Rag2 knockout mice 60 days following injection with 1 \(\times\) 10\(^6\) CD4\(^+\)CD45RB\(^{hi}\)CD25\(^{-}\) T cells or saline (control).