$$\begin{array}{c|c} 1 & A \\ 2 & A \rightarrow B \rightarrow A \\ 3 & B \rightarrow A \end{array}$$

 $\begin{array}{c} {\rm Assumption} \\ {\rm Axiom} \ 1 \\ {\rm MP} \ {\rm from} \ 1 \ {\rm and} \ 2 \end{array}$