$$\begin{array}{ccc}
K \otimes \prod N_\bullet & \longrightarrow & M \otimes \prod N_\bullet & \qquad (r_1) \\
\Big\downarrow{\scriptstyle\beta} & & \Big\uparrow{\scriptstyle\alpha} & \\
\prod(K \otimes N_\bullet) & \longrightarrow & \prod(M \otimes N_\bullet) & \qquad (r_2)
\end{array}$$