$$\begin{array}{ccc}
M_s \times_t M & \xrightarrow{\ c\ } & M \\
\ \ \ \ \ C & & \\
{\color{red} F_M \times F_M \circ \omega} \downarrow \quad & \circlearrowleft & \quad \downarrow F_M \\
M'_{s'} \times_{t'} M' & \xrightarrow{\ c'\ } & M' \\
\ \ \ \ \ C' & &
\end{array}$$