$$M * (N * (P * A)) \xrightarrow{\kappa_{M,N,P*A}} (M \otimes N) * (P * A) \xrightarrow{\kappa_{M \otimes N,P,A}} ((M \otimes N) \otimes P) * A$$

$$\downarrow 1_{M} * \kappa_{N,P,A} \downarrow \qquad \qquad \qquad \uparrow \alpha_{M,N,P} * 1_{A}$$

$$M * ((N \otimes P) * A) \xrightarrow{\kappa_{M,N \otimes P,A}} (M \otimes (N \otimes P)) * A$$