$$X \otimes^{\mathbf{L}} (Y \otimes^{\mathbf{L}} Z) = \rho(\rho X \otimes \rho(\rho Y \otimes \rho Z))$$

$$\alpha^{\rho} \downarrow \qquad \qquad \downarrow^{\rho(a^{s})}$$

$$(X \otimes^{\mathbf{L}} Y) \otimes^{\mathbf{L}} Z = \rho(\rho(\rho X \otimes \rho Y) \otimes \rho Z)$$