

$$\begin{array}{ccc}
 \langle \langle a, b \rangle, c \rangle & \xrightarrow{\quad} & \langle a, \langle b, c \rangle \rangle \\
 \downarrow (f \times g) \times h & \alpha_{A,B,C} & \downarrow f \times (g \times h) \\
 (A \times B) \times C & \xrightarrow{\quad} & A \times (B \times C) \\
 \downarrow (f \times g) \times h & \alpha_{A',B',C'} & \downarrow f \times (g \times h) \\
 (A' \times B') \times C' & \xrightarrow{\quad} & A' \times (B' \times C') \\
 \downarrow (f \times g) \times h & & \downarrow f \times (g \times h) \\
 \langle \langle f(a), g(b) \rangle, h(c) \rangle & \xleftarrow{\quad} & \langle f(a), \langle g(b), h(c) \rangle \rangle
 \end{array}$$