

$$\begin{array}{ccc}
\mathcal{A}^{\text{Nop}} & \xrightarrow{F := (X, -)} & \mathbf{Ab}^{\text{Nop}} \\
G := \varprojlim \downarrow & & \downarrow G := \varprojlim \\
\mathcal{A} & \xrightarrow{F := (X, -)} & \mathbf{Ab}
\end{array}$$