

Prover
 (g, q, y, α)

$$r_\alpha \in_R \mathbb{Z}_q$$

$$t := g^{r_\alpha}$$

$$s_\alpha := r_\alpha - c\alpha \bmod q$$

Verifier
 (g, q, y)

$$c \in_R \{0, 1\}^k$$

$$t \stackrel{?}{=} g^{s_\alpha} y^c$$

$$\xrightarrow{t}$$

$$\xleftarrow{c}$$

$$\xrightarrow{s_\alpha}$$