

Supplemental Table 1. Antibodies and Staining Conditions

Antibody (Source)	Dilution	Incubation Conditions	Secondary Antibody <sup>a</sup>
Guinea Pig Anti-Insulin (Dako, Burlington, ON, Canada)	1:200	4°C, overnight	HRP- or AlexaFluor 488-Rabbit Anti-Guinea Pig
Rabbit Anti-Glucagon (Millipore, Billerica, MA, USA)	1:200	4°C, overnight	HRP- or AlexaFluor 488-Goat Anti-Rabbit
Guinea Pig Anti-C-peptide (Abcam, Toronto, ON, Canada)	1:100	4°C, overnight	HRP- or AlexaFluor 594-Rabbit Anti-Guinea Pig
Mouse Anti-Proinsulin (Hagedorn Research Institute, Gentofte, Denmark)	1:100	4°C, overnight	HRP- or AlexaFluor 594-Sheep Anti-Mouse
Rabbit Anti-ERp44 (New England Biolabs, Whitby, ON, Canada)	1:100	Manufacturer's instructions	AlexaFluor 594-Goat Anti-Rabbit
Rabbit Anti-PDI ((New England Biolabs, Whitby, ON, Canada)	1:100	Manufacturer's instructions	AlexaFluor 594-Goat Anti-Rabbit

<sup>a</sup> HRP-conjugated secondary antibodies (Sigma, Oakville, ON, Canada) were applied at a dilution of 1:200 for 2 h at room temperature. AlexaFluor<sup>®</sup> secondary antibodies (ThermoFisher Scientific, Burlington, ON, Canada) were applied at a dilution of 1:200 for 2 h at room temperature in the dark.