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RESPONSE TO COMMENT ON BODEN ET AL.

# Insulin Regulates the Unfolded Protein Response in Human Adipose Tissue. *Diabetes* 2014;63:912–922

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We thank Drs. Lieske and Birkenfeld (1) for their comments. We agree that in our article (2) we did not address the question of whether or not the activating effects of insulin on endoplasmic reticulum (ER) stress will become resistant in the setting of obesity-associated insulin resistance and that it would be important to understand whether or not insulin-resistant humans remain sensitive to insulin-induced ER stress. However, we have addressed these important points in subsequent studies (G.B., unpublished observations), which showed that insulin resistance inhibited insulin-induced ER stress responses in adipose tissue of nondiabetic and diabetic subjects. Based on these results, we hypothesized that insulin resistance

in adipose tissue may be a protective mechanism against hyperinsulinemia-induced ER stress. A manuscript containing these results has been submitted for review.

**Duality of Interest.** No potential conflicts of interest relevant to this article were reported.

## References

1. Lieske S, Birkenfeld AL. Comment on Boden et al. Insulin regulates the unfolded protein response in human adipose tissue. *Diabetes* 2014;63:912–922 (Letter). *Diabetes* 2014;63:e1. DOI: 10.2337/db13-1844
2. Boden G, Cheung P, Salehi S, et al. Insulin regulates the unfolded protein response in human adipose tissue. *Diabetes* 2014;63:912–922

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