Lack of Specificity of Commercial Antibodies Leads to Misidentification of Angiotensin Type-1 Receptor Protein

To the Editor:

We agree with the report by Herrera et al1 demonstrating that anti-angiotensin II type-1 receptor (AT1R) antibodies that are commonly used exhibit nonspecific binding that may lead to erroneous results. Because only 3 AT1R antibodies were used in the study, we would like to share our findings to support their conclusion.

Antihemagglutinin antibody detected a major band (≈40 kDa) in human embryonic kidney cells expressing rat AT1R fused with hemagglutinin tag at either amino terminus or carboxyl terminus but not in the control cells. The molecular weight is consistent with the AT1R band observed by Herrera et al.1 In contrast, no specific difference was observed among the cell lysates immunoblotted with 3 distinct AT1R antibodies, which should have detected rat AT1R according to the manufacturers (Figure).

Herrera et al used mouse tissues and cells expressing mouse AT1R for their experiments. Our data support and expand the findings by including rat AT1R and adding 2 other frequently used AT1R antibodies. Researchers must be aware that commercially available AT1R antibodies and antibodies against other G protein–coupled receptors may not be specific enough to quantify the receptor expression. To publish an article using an AT1R antibody, it should be accompanied by sufficient evidence to support the specificity. We also encourage the antibody manufacturers to include rigorous confirmation before commercialization.

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Disclosures

None.

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