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

We read with great interest the letter from Eguchi et al providing additional evidence to support the lack of suitability of commercial antibodies for detecting angiotensin type-1 (AT1) receptor protein in experimental systems. The data from Eguchi and associates extend our previous report by documenting the failure of 2 additional antibodies to specifically detect rat AT1 receptor protein in Western blots of protein isolated from cells transfected with rat AT1 receptors fused with a hemagglutinin tag. Including Eguchi’s letter and our study, there are now independent publications from 4 different laboratories demonstrating lack of specificity of 7 commonly used anti-AT1 receptor antibodies available from reputable commercial sources (Table). Indeed, it is notable that none of the antibodies tested have demonstrated specificity for AT1 receptor protein. Thus, it is incumbent on investigators to verify the specificity and suitability of anti-AT1 receptor antibodies for their particular experimental application. Reviewers and journals should likewise require such verification.

Marcela Herrera
Matthew A. Sparks
Division of Nephrology
Department of Medicine
Duke University Medical Center and VA Medical Center
Durham, NC

Adolfo R. Alfonso-Pecchio
Department of Infectious Diseases
St Jude Children’s Research Hospital
Memphis, TN

Lisa M. Harrison-Bernard
Department of Physiology
Louisiana State University Health Sciences Center
New Orleans, LA

Thomas M. Coffman
Division of Nephrology
Department of Medicine
Duke University Medical Center and VA Medical Center
Durham, NC

Table. Commercial Antibodies Shown to be Unreliable for Detecting AT1R Protein

<table>
<thead>
<tr>
<th>Antibody Source</th>
<th>Species of AT1R Used for Testing</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abcam ab9391</td>
<td>Rat</td>
<td>Eguchi et al</td>
</tr>
<tr>
<td>Abcam ab15552</td>
<td>Mouse and rat</td>
<td>Benicky et al</td>
</tr>
<tr>
<td>Abcam ab18801</td>
<td>Mouse</td>
<td>Herrera et al</td>
</tr>
<tr>
<td>Abcam ab9391</td>
<td>Rat</td>
<td>Benicky et al</td>
</tr>
<tr>
<td>Alomone AAR-011</td>
<td>Mouse</td>
<td>Herrera et al</td>
</tr>
<tr>
<td>Santa Cruz sc-579</td>
<td>Rat</td>
<td>Eguchi et al</td>
</tr>
<tr>
<td>Santa Cruz sc-1173</td>
<td>Mouse and rat</td>
<td>Benicky et al</td>
</tr>
<tr>
<td>Santa Cruz sc-31181</td>
<td>Mouse</td>
<td>Rateri et al</td>
</tr>
</tbody>
</table>

AT1R indicates angiotensin II type-1 receptor.

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Marcela Herrera, Matthew A. Sparks, Adolfo R. Alfonso-Pecchio, Lisa M. Harrison-Bernard and Thomas M. Coffman

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