Pyk2 Phosphorylation Site-Specific Antibody Sampler (Containing Pyk2 [pY\(^{402}\)], [pY\(^{579}\)], [pY\(^{580}\)] and [pY\(^{881}\)] Rabbit polyclonals, Unconjugated)

PRODUCT ANALYSIS SHEET

**Catalog Number:** 44-638G

**Lot Number:** See product label

**Components:**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Antibody Description</th>
<th>Volume</th>
<th>Applications Tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>44-618ZG</td>
<td>Pyk2 [pY(^{402})]</td>
<td>20 μL</td>
<td>WB, IS</td>
</tr>
<tr>
<td>44-632ZG</td>
<td>Pyk2 [pY(^{579})]</td>
<td>20 μL</td>
<td>WB, IS</td>
</tr>
<tr>
<td>44-634ZG</td>
<td>Pyk2 [pY(^{580})]</td>
<td>20 μL</td>
<td>WB, IS</td>
</tr>
<tr>
<td>44-620ZG</td>
<td>Pyk2 [pY(^{881})]</td>
<td>20 μL</td>
<td>WB, IS</td>
</tr>
</tbody>
</table>

1 Using each of the supplied phosphorylation site-specific antibodies (PSSAs) at a starting dilution of 1:1,000 provides 20 mL working solution for each antibody, which at 10 mL per mini-gel blot allows 2 mini-blots to be performed. The optimal antibody concentration should be determined for each specific application and testing system.

2 Applications indicated include: WB (Western blotting), IS (immunostaining)

**Target Group:**

Proline-rich/Ca\(^{2+}\)-activated tyrosine kinase (Pyk2) is a member of the FAK family of non-receptor, proline-rich protein tyrosine kinases. Pyk2 signaling is initiated by a variety of extracellular stimuli including integrin ligation, CD surface marker ligation (e.g., CD3, CD28, TCR, VCAM), bioactive peptides, growth factors, cytokines, chemokines, and certain stress stimuli (reactive oxygen species and Ca\(^{2+}\) flux). Pyk2 is involved in the regulation of vesicular transport, osteoclastic bone resorption, modulation of ion channels, T- and B-cell receptor signaling and cell death. Pyk2 tyrosine 402 is autophosphorylated, an important initial step for full activation of the kinase. This phosphorylation also allows binding of Src and the p85 subunit of PI3-kinase. Phosphorylation of the catalytic domain activation loop tyrosines 579 and 580 by Src results in maximum activation of Pyk2. Pyk 2 [pY\(^{881}\)] is a potential Grb2 binding site. The **Pyk2 PSSA Sampler Pack** allows one to readily study selective phosphoregulation of multiple sites along Pyk2.

**Form of Antibodies:**

All PSSAs are affinity purified rabbit polyclonal immunoglobulins formulated in Dulbecco’s phosphate buffered saline (without Mg\(^{2+}\) and Ca\(^{2+}\)), pH 7.3 (+/- 0.1), 50% glycerol with 1.0 mg/mL BSA (IgG, protease free) as a carrier and 0.05% sodium azide as a preservative. (Caution: sodium azide is a poisonous and hazardous substance. Handle with care and dispose of properly.).

**Storage:**

Store at −20°C. We recommend a brief centrifugation before opening to settle vial contents. Then, apportion into working aliquots and store at −20°C. For shipment or short-term storage (up to one week), 2-8°C is sufficient.

**Expiration Date:**

Expires one year from date of receipt when stored as instructed.
References:


Western Blots

Extracts of primary chicken embryo fibroblasts (CEF) mock transfected (-Pyk2) or transfected with a vector containing Pyk2 (+Pyk2), plated on fibronectin and treated with 50 μM vanadate for 16 hours were resolved by SDS-PAGE on a 10% Tris-glycine gel and transferred to PVDF. The membrane was blocked with a 5% Ig-free BSA-TBST buffer for one hour at room temperature, and then incubated with each of the antibodies at 1:1000 dilution for two hours at room temperature in a 1% Ig-free BSA-TBST buffer. After washing, the membrane was incubated with goat F(ab')2 anti-rabbit IgG HRP (Cat. # ALI4404) and signals were detected using the Pierce SuperSignal™ method.

The data show up-regulation of Pyk2 production and phosphorylation at all tyrosine sites when the Pyk2 expression vector is added to cells.