Protease-Activated Receptor-2, amide

Cat. No.: HY-P0283
CAS No.: 190383-13-2
Molecular Formula: C₂₈H₅₄N₈O₇
Molecular Weight: 614.78
Sequence: Ser-Leu-Ile-Gly-Lys-Val-NH₂
Sequence Shortening: SLIGKV-NH₂
Target: Protease-Activated Receptor (PAR)
Pathway: GPCR/G Protein
Storage:
- Powder: -20°C 3 years, 4°C 2 years
- In solvent: -80°C 6 months, -20°C 1 month

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>Solvent &amp; Solubility</th>
<th>In Vitro</th>
<th>H₂O : 33.33 mg/mL (54.21 mM; Need ultrasonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing Stock Solutions</td>
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<td></td>
</tr>
<tr>
<td>Solvent</td>
<td>Concentration</td>
<td>Mass</td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>1.6266 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.3253 mL</td>
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<tr>
<td>10 mM</td>
<td></td>
<td>0.1627 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

**BIOLOGICAL ACTIVITY**

Description: Protease-Activated Receptor-2, amide (SLIGKV-NH₂) is a highly potent protease-activated receptor-2 (PAR2) activating peptide.

IC₅₀ & Target: PAR²[1]

In Vitro: The PAR2-activating peptides used are: SLIGKV-OH, SLIGRL-OH, SLIGKV-NH₂, SLIGRL-NH₂. The synthetic agonist peptides mimicking the tethered ligand of PAR2, Ser-Leu-Ile-Gly-Lys-Val (SLIGKV-OH), Ser-Leu-Ile-Gly-Arg-Leu (SLIGRL-OH) and their amidated forms Ser-Leu-Ile-Gly-Lys-Val-amide (SLIGKV-NH₂) Ser-Leu-Ile-Gly-Arg-Leu-amide (SLIGRL-NH₂) have also been demonstrated being able to activate the receptor without enzymatic cleavage, therefore, have been utilised as biological tools to examine physiological functions of PAR2. Protease-Activated Receptor-2, amide is one of a four family subgroup of G-protein-coupled receptors (GPCRs), called PARs. Protease-
activated receptors are distinguished from other GPCRs through their unique proteolytic mechanism of activation. For PAR2, activating proteases, such as trypsin, tryptase and coagulation factors VIIa and Xa, cleave a specific extracellular amino-terminal domain of the receptor to reveal a "tethered ligand", SLIGKV- and SLIGRL- for human and mouse/rat PAR2, respectively, which subsequently interacts with the activation domain of the receptor, initiating intracellular signaling pathways[1]. The protease-activated receptor-2 (PAR2) has been implicated in the pathogenesis of several inflammatory and autoimmune disorders, and is expressed in a wide variety of human tissues and cells. PAR2 belongs to a family of seven transmembrane domain receptor proteins that are activated by proteolysis. Enzymatic digestion exposes an N-terminus ligand sequence that binds intramolecularly to the activation site on the extracellular loop II, initiating a G-protein-mediated cell-signalling cascade and nuclear factor-kappa B (NF-κB)-regulated gene transcription[2].

REFERENCES
