Centanafadine hydrochloride

Cat. No.: HY-16736A  
CAS No.: 923981-14-0  
Molecular Formula: C₁₅H₁₆ClN  
Molecular Weight: 245.75  
Target: Adrenergic Receptor; Dopamine Transporter; Serotonin Transporter  
Pathway: GPCR/G Protein; Neuronal Signaling  
Storage: Please store the product under the recommended conditions in the COA.

BIOLOGICAL ACTIVITY

<table>
<thead>
<tr>
<th>Description</th>
<th>Centanafadine (hydrochloride) is dual norepinephrine (NE)/dopamine (DA) transporter inhibitor, also inhibits serotonin transporter, with IC₅₀ values of 6 nM, 38 nM and 83 nM for human NE, DA and serotonin transporter, respectively.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC₅₀ &amp; Target</td>
<td>IC₅₀: 6 nM (human NE), 38 nM (human DA), 83 nM (human serotonin)[1].</td>
</tr>
</tbody>
</table>

In Vitro  
Centanafadine (EB-1020) preferentially inhibits monoamine reuptake in cloned cell lines transfected with human transporters with IC₅₀ values of 6 and 38 nM, respectively, for NE and DA transporters. Centanafadine has lesser effects on 5-HT transporter as it inhibits the reuptake of 5-HT with an IC₅₀ value of 83 nM[1].

In Vivo  
In microdialysis studies, Centanafadine markedly increases NE, and DA concentrations levels in rat prefrontal cortex in vivo with peak increases of 375 and 300%, respectively, with the greatest effects on NE, and also increases DA extracellular concentrations in the striatum to 400% of baseline concentrations. Behavioral studies demonstrate that Centanafadine dose-dependently decreases immobility in the mouse tail suspension test of depression to 13% of control levels, and do not stimulate locomotor activity in adult rats in the optimal dose range. Centanafadine dose-dependently inhibits locomotor hyperactivity in juvenile rats lesioned with the neurotoxin 6-hydroxydopamine (100 μg intracisternally) as neonates; a well-established animal model for attention-deficit hyperactivity disorder (ADHD)[1].

REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.