Supplementary notes, CHEM 527

Hormone binds GPCR, dissociating Gα-GTP

Inactive

Active

Adenylyl cyclase

Cyclase

ATP

cAMP

AMP

Phosphodiesterase

Phosphatase

Glucose

Glucose-6-P

N

C

Table 13.1 Biological functions mediated by 7TM receptors

<table>
<thead>
<tr>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hormone action</td>
</tr>
<tr>
<td>Hormone secretion</td>
</tr>
<tr>
<td>Neurotransmission</td>
</tr>
<tr>
<td>Chemotaxis</td>
</tr>
<tr>
<td>Exocytosis</td>
</tr>
<tr>
<td>Control of blood pressure</td>
</tr>
<tr>
<td>Embryogenesis</td>
</tr>
<tr>
<td>Cell growth and differentiation</td>
</tr>
<tr>
<td>Development</td>
</tr>
<tr>
<td>Smell</td>
</tr>
<tr>
<td>Taste</td>
</tr>
<tr>
<td>Vision</td>
</tr>
<tr>
<td>Viral infection</td>
</tr>
</tbody>
</table>


Note: S. J. Schubert

© 2013 by W. Freeman and Company

(A)

N

C

(B) Ligand-binding site

Cytoplasmic loops

β2-adrenergic receptor
The Nobel Prize in Chemistry 2012

Robert J. Lefkowitz
Duke University Medical Center
Dept. of Biochemistry

Brian K. Kobilka
Stanford University
Dept. of Molecular & Cellular Physiology

"for studies of G-protein-coupled receptors"

http://www.nobelprize.org/nobel_prizes/chemistry/laureates/2012/#

Link to interview with Brian Kobilka reacting to his honor.

Figure 13-5b
Biochemistry: A Short Course, Second Edition
© 2013 W. A. Freeman and Company

Figure 13-6
Biochemistry: A Short Course, Second Edition
© 2013 W. A. Freeman and Company
Figure 13.7
Biochemistry: A Short Course, Second Edition
© 2013 W.H. Freeman and Company

Figure 13.8
Biochemistry: A Short Course, Second Edition
© 2013 W.H. Freeman and Company