

Glossary

5-lipoxygenase: A human enzyme that transforms essential fatty acids into leukotrienes and is a current target for pharmaceutical intervention in a number of diseases.

α -adrenergic agonists: Drugs that combine with the α -adrenergic receptor and initiate the biological response.

α -cells: Endocrine cells in the pancreas that are responsible for synthesizing and secreting glucagon, which elevates the glucose levels in the blood.

α -receptors: A type of adrenergic receptor. Activation by adrenergic agonists cause constriction of peripheral blood vessels, constriction of urinary sphincter, pupil dilation, and increased glycogenolysis in the liver.

α_1 -receptor: A subtype of α -adrenergic receptor; when stimulated it results in peripheral vasoconstriction, pupil dilation, and contraction of urinary sphincter.

α_2 -receptor: A subtype of α -adrenergic receptor located on peripheral nerve terminals; activation of these receptors inhibits the release of additional norepinephrine.

Abortifacient: Produces abortion.

Absorption: Refers to getting the drug into the bloodstream.

ACE: See *angiotensin-converting enzyme*.

ACE inhibitors: A drug that relaxes blood vessel walls and lowers blood pressure by blocking ACE.

Acetylcholine: A neurotransmitter released by several types of nerve fibers; notably by the parasympathetic postganglionic nerve fiber.

Acetylsalicylic acid (ASA): Chemical name for aspirin.

Acid: A proton donor; a molecule capable of releasing hydrogen ions (ie, protons, H⁺) in solution. Also refers to a solution with a hydrogen ion concentration high enough to give a pH <7.

Acid secretion transporter: An active transport mechanism in the renal tubule cells that moves acid compounds from the blood into the renal tubule for excretion.

Acneiform eruptions: Resembling acne.

Active drug: The chemical structure of a drug that combines with the receptor to produce the response.

Active transport: A mechanism for the transport of substances across membranes. The compound being transported attaches itself to a particular binding site of a protein transporter. The mechanism can transport against the concentration gradient but requires cellular energy.

Addiction: A behavioral disorder that is characterized by obsessive drug use typically accompanied by extreme measures to obtain the drug. The driving force that causes addiction is the desire for the euphoria from the drug.

Additive effects: When the response obtained from 2 or more drugs is equal to the sum of the responses obtained when the drugs are used individually.

Adenosine receptors: Receptors to which the chemical mediator adenosine combines and may contribute to bronchoconstriction. Inhibition of adenosine receptors may be part of the mechanism of theophylline action.

Adrenaline: See *epinephrine*.

Adrenergic: Relating to nerve cells or fibers of the autonomic nervous system that use norepinephrine as their neurotransmitter; relating to drugs that mimic the actions of the sympathetic nervous system.

Adrenergic receptor: Receptors to which epinephrine and norepinephrine combine to initiate a sympathetic response. Drugs that combine with the same receptors either mimic (agonist) or inhibit (antagonist) the sympathetic response.

Adulteration: The alteration of any substance by the deliberate addition of a component not ordinarily part of the substance.

Adverse drug reaction (ADR): Any undesirable response from a drug. These reactions can range from dry mouth to life-threatening organ damage. Some ADRs are not dose related. A broader term than *side effect*.

Affinity component: The first phase of the drug-receptor interaction; refers to the strength of the chemical binding interaction between the drug and the receptor. The second phase of this interaction causes the biological response (see *efficacy component*).

Agonist: A drug capable of combining with a receptor and activating the transduction mechanism to initiate the biological response.

Agranulocytosis: An acute disease in which the white blood cell count drops to extremely low levels.

Akathisia: Inability to sit down because the thought of doing so causes severe anxiety.

Albumin: The plasma protein with the largest concentration in the blood. Many drugs bind to albumin, which increases the drug's volume of distribution.