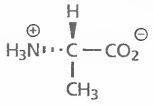
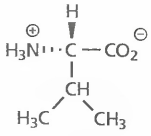
Appendix 1

Essential amino acids

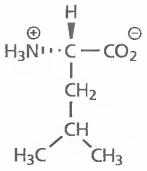
NON POLAR
(hydrophobic)



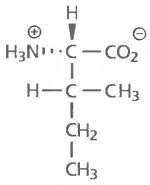
Alanine
(Ala or A)



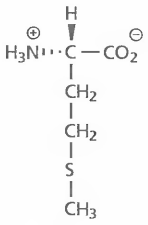
Valine
(Val or V)



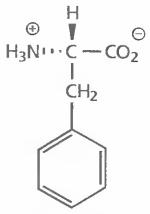
Leucine
(Leu or L)



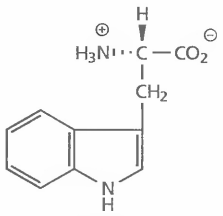
Isoleucine
(Ile or I)



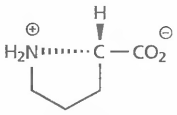
Methionine
(Met or M)



Phenylalanine
(Phe or F)

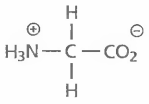


Tryptophan
(Try or W)

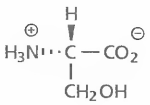


Proline
(Pro or P)

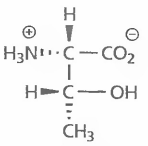
POLAR



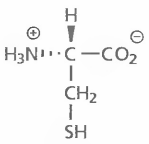
Glycine
(Gly or G)



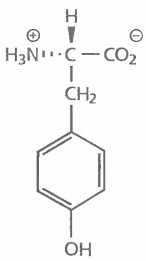
Serine
(Ser or S)



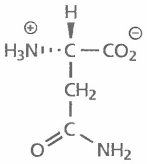
Threonine
(Thr or T)



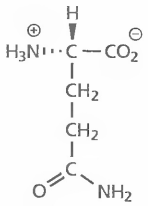
Cysteine
(Cys or C)



Tyrosine
(Tyr or Y)

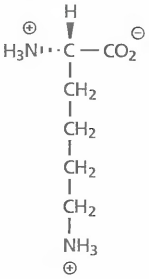


Asparagine
(Asn or N)

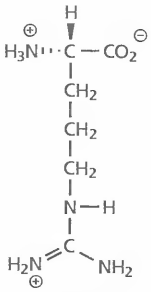


Glutamine
(Gln or Q)

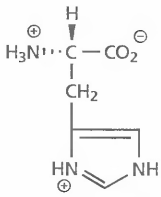
IONISED



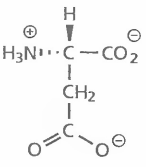
Lysine
(Lys or K)



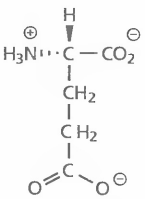
Arginine
(Arg or R)



Histidine
(His or H)



Aspartate
(Asp or D)



Glutamate
(Glu or E)

Appendix 2

The standard genetic code

UUU	Phe	**UCU**	Ser	**UAU**	Tyr	**UGU**	Cys
UUC	Phe	**UCC**	Ser	**UAC**	Tyr	**UGC**	Cys
UUA	Leu	**UCA**	Ser	**UAA**	Stop	**UGA**	Stop
UUG	Leu	**UCG**	Ser	**UAG**	Stop	**UGG**	Trp
CUU	Leu	**CCU**	Pro	**CAU**	His	**CGU**	Arg
CUC	Leu	**CCC**	Pro	**CAC**	His	**CGC**	Arg
CUA	Leu	**CCA**	Pro	**CAA**	Gln	**CGA**	Arg
CUG	Leu	**CCG**	Pro	**CAG**	Gln	**CGG**	Arg
AUU	Ile	**ACU**	Thr	**AAU**	Asn	**AGU**	Ser
AUC	Ile	**ACC**	Thr	**AAC**	Asn	**AGC**	Ser
AUA	Ile	**ACA**	Thr	**AAA**	Lys	**AGA**	Arg
AUG	Met	**ACG**	Thr	**AAG**	Lys	**AGG**	Arg
GUU	Val	**GCU**	Ala	**GAU**	Asp	**GGU**	Gly
GUC	Val	**GCG**	Ala	**GAC**	Asp	**GGC**	Gly
GUA	Val	**GCA**	Ala	**GAA**	Glu	**GGA**	Gly
GUG	Val	**GCG**	Ala	**GAG**	Glu	**GGG**	Gly

Appendix 3

Statistical data for QSAR

To illustrate how statistical terms such as *r*, *s*, and *F* are derived and interpreted, the following numerical data will be used. There are 6 compounds in the study ($n = 6$). Y_{exp} is the logarithm of the observed activity for each of the compounds and X is a physicochemical parameter. The QSAR equation derived from the data is:

$$\log(\text{activity}) = Y_{calc} = k_1 X + k_2 = -0.47\,X - 0.022$$

The slope of the line is −0.47 and the intercept with the y-axis is −0.022.

The correlation coefficient *r* for the above QSAR equation is calculated using equation (1):

$$r^2 = 1 - \frac{SS_{calc}}{SS_{mean}} \qquad (1)$$

SS_{calc} is a measure of how much the experimental activity of the compounds varies from the calculated value. For each compound, the difference between the experimental activity and the calculated activity is $Y_{exp} - Y_{calc}$ (Fig. A3.1). This is then squared and the values are added together to give the sum of the squares (SS_{calc}).

SS_{mean} is a measure of how much the experimental activity varies from the mean of all the experimental activities and represents the situation where no correlation with X has been attempted (Fig. A3.1).

If there is a correlation between the activity (Y) and the parameter (X), the line of the equation should pass closer to the data points than the line representing the mean. This means that SS_{calc} should be less than SS_{mean}. For a perfect correlation, the calculated values for the activity would be the same as the experimental ones and so SS_{calc} would be zero. This would make $r^2 = 1$.

For the figures shown in Table A3.1, the value of *r* works out as follows:

$$r^2 = 1 - \frac{SS_{calc}}{SS_{mean}} = 1 - \frac{0.1912}{0.5279} = 1 - 0.3622 = 0.638$$

TABLE A3.1

Compound (n = 6)	Physiological parameter (X)	Log (act.)$_{exp}$ Y_{exp}	Log (act.)$_{calc}$ Y_{calc}	$Y_{exp} - Y_{calc}$	Square of $Y_{exp} - Y_{calc}$	$Y_{exp} - Y_{mean}$	Square of $Y_{exp} - Y_{mean}$
1	0.23	0.049	−0.129	0.178	0.0317	0.263	0.0692
2	0.23	0.037	−0.129	0.166	0.0276	0.251	0.0630
3	−0.17	0	0.057	−0.057	0.0032	0.214	0.0458
4	0	−0.155	−0.022	−0.133	0.0177	0.059	0.0035
5	1.27	−0.468	−0.613	0.145	0.0210	−0.254	0.0645
6	0.91	−0.745	−0.445	−0.3	0.0900	−0.531	0.2820
		Mean value			Sum of squares		Sum of squares
		Y_{mean}			SS_{calc}		SS_{mean}
		−0.214			0.1912		0.5279

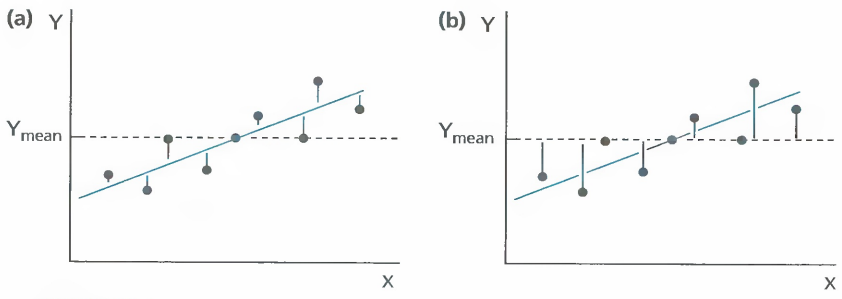


FIGURE A3.1

This indicates that only 64% of the variability in activity is due to the parameter X. This is much lower than the minimum acceptable figure of 80%, and so the equation is not a particularly good one. Nevertheless, it is possible that X may have some influence on the activity. To check whether there is any significance to the equation a statistical test called an *F*-test can be carried out. The equation used for this specific example is as follows:

$$F_{p2-p1,\,n-p2} = \frac{SS_{mean} - SS_{calc}}{SS_{calc}} \times \frac{n - p_2}{p_2 - p_1}$$

where p_2 is the number of parameters involved in the derived QSAR equation (Y and X) and p_1 are the number of parameters involved in the reference equation (Y only in this example). n, SS_{mean}, and SS_{calc} are as described above. This gives the following:

$$F_{2-1,6-2} = \frac{0.528 - 0.1912}{0.1912} \times \frac{6-2}{2-1}$$

$$\text{or } F_{1,4} = \frac{0.528 - 0.1912}{0.1912} \times \frac{6-2}{2-1} = 1.7615 \times 4 = 7.05$$

$F_{1,4}$ is now compared against tables of *F* values, which indicate the probability level of a significant correlation. For $F_{1,4}$ the tables show that a value of 4.54 would indicate a probability level of 0.9, whereas 7.71 represents a probability level of 0.95. A value of 21.2 represents a probability level of 0.99. The higher the value of F_{14}, the closer the probability level approaches 1. The calculated value of 7.05 shows that the probability level is between 0.9 and 0.95.

The standard deviation (*s*) for the equation is calculated by using equation (2), and is dependent on the number of compounds (n) tested.

$$s^2 = \frac{SS_{calc}}{n-2} \qquad (2)$$

This gives a value of 0.218 for the data provided in Table A3.1. The value of s should be as small as possible, but not smaller than the standard deviation of the experimental data.

A QSAR equation could now be derived to see whether the biological activity matches a different physicochemical parameter. Table A3.2 shows values for a different parameter (Z). In this case, the derived equation is:

$$Y_{calc} = 0.33\,Z - 0.62$$

The statistical analysis of this gives the following:

$$n = 6;\ r = 0.840,\ s = 0.199,\ F_{1,4} = 9.6$$

All these results are better than the previous ones, showing that the parameter Z is more important than X in explaining the variation in activity. r is still less than 0.9, however, and further improvements are necessary.

If both of the above parameters are included in the analysis, the equation becomes:

$$Y_{calc} = -0.34X + 0.25Z - 0.38$$

The corresponding table of results are shown in Table A3.3. The statistical results are $n = 6$, $r = 0.998$, $s = 0.028$ and $F_{1,3} = 230.3$. Note that there are three parameters in the QSAR equation and so the *F* term is $F_{1,3}$ rather than $F_{1,4}$. Comparison with tabulated $F_{1,3}$ values shows that the probability level for this equation is 0.999.

A final check has to be made to ensure that the values for the two parameters (X and Z) are not related in any way. An equation attempting to relate X and Z is derived and assessed statistically. For the values shown, $r^2 = 0.122$, which shows that there is little correlation between X and Z. The final equation is therefore validated.

QSAR equations may also include terms in parenthesis. For example, taking the previous equation:

$$Y_{calc} = -0.34(\pm 0.08)X + 0.25(\pm 0.05)Z - 0.38(\pm 0.09)$$

The numbers in parenthesis represent the 95% confidence limits for the various parameters. For example, there is 95% confidence that the coefficient for Z lies between the values 0.20 and 0.30. If the number in parenthesis is smaller than the coefficient, it means the parameter is statistically significant in the *F*-test.

TABLE A3.2

Compound (n = 6)	Physicochemical parameter (Z)	Log (act.)$_{exp}$ Y_{exp}	Log (act.)$_{calc}$ Y_{calc}	$Y_{exp} - Y_{calc}$	Square of $Y_{exp} - Y_{calc}$	$Y_{exp} - Y_{mean}$	Square of $Y_{exp} - Y_{mean}$
1	2.03	0.049	0.0499	−0.0009	0.0000	0.263	0.0692
2	1.83	0.037	−0.0161	0.0531	0.0028	0.251	0.0630
3	1.38	0.000	−0.1646	0.1646	0.0271	0.214	0.0458
4	0.90	−0.155	−0.323	0.1680	0.0282	0.059	0.0035
5	1.40	−0.468	−0.158	−0.3100	0.0961	−0.254	0.0645
6	−0.26	−0.745	−0.7058	−0.0392	0.0015	−0.531	0.2820
		Mean value			**Sum of squares**		**Sum of squares**
		Y_{mean}			SS_{calc}		SS_{mean}
		−0.214			0.1558		0.5279

TABLE A3.3

Compound (n = 6)	Physicochemical parameter (X)	Physicochemical parameter (Z)	Log (act.)$_{exp}$ Y_{exp}	Log (act.)$_{calc}$ Y_{calc}	$Y_{exp} - Y_{calc}$	Square of $Y_{exp} - Y_{calc}$	$Y_{exp} - Y_{mean}$	Square of $Y_{exp} - Y_{mean}$
1	0.23	2.03	0.049	0.0493	−0.0003	0.0000	0.263	0.0692
2	0.23	1.83	0.037	−0.0007	0.0377	0.0014	0.251	0.0630
3	−0.17	1.38	0.000	0.0228	−0.0228	0.0005	0.214	0.0458
4	0.00	0.90	−0.155	−0.1550	0.0000	0.0000	0.059	0.0035
5	1.27	1.40	−0.468	−0.4618	−0.0062	0.0000	−0.254	0.0645
6	0.91	−0.26	−0.745	−0.7544	−0.0094	0.0001	−0.531	0.2820
			Mean value			**Sum of squares**		**Sum of squares**
			Y_{mean}			SS_{calc}		SS_{mean}
			−0.214			0.0021		0.5279

Appendix 4

The action of nerves

The structure of a typical nerve cell or neuron is shown in Fig. A4.1. The nucleus of the cell is found in the large cell body situated at one end of the neuron. Small arms (dendrites) radiate from the cell body and receive messages from other neurons. These messages either stimulate or destimulate the neuron. The cell body 'collects' the sum total of these messages.

Ion channels can select between different ions. There are cationic ion channels for Na^+, K^+, and Ca^{2+} ions. When these channels are open, they are generally excitatory and lead to depolarization of the cell.

It is worth emphasizing that the cell body of a neuron receives messages, not just from one other neuron, but from a range of different neurons. These pass on different messages (neurotransmitters). Therefore, a message received from a single neuron is unlikely to stimulate a neuron signal by itself unless other neurons are acting in sympathy.

Assuming that the overall stimulation is great enough, an electrical signal is fired down the length of the neuron (the axon). The axon is covered with sheaths of lipid (myelin sheaths), which act to insulate the signal as it passes down the axon.

The axon leads to a knob-shaped swelling (synaptic button) if the neuron is communicating with another neuron. Alternatively, if the neuron is communicating with a muscle cell, the axon leads to what is known as a neuromuscular endplate, where the nerve cell has spread itself like an amoeba over an area of the muscle cell.

Within the synaptic button or neuromuscular endplate there are small globules (vesicles) containing the neurotransmitter chemical. When a signal is received from the axon, the vesicles merge with the cell membrane and release their neurotransmitter into the gap between the neuron and the target cell (synaptic gap). The neurotransmitter binds to the receptor as described in chapter 4, and passes on its message. Once the message has been received, the neurotransmitter leaves the receptor and is either broken down enzymatically (e.g. acetylcholine) or taken up intact by the nerve cell (e.g. noradrenaline). Either way, the neurotransmitter is removed from the synaptic gap and is unable to bind with its receptor a second time.

To date, we have talked about nerves 'firing' and the generation of 'electrical signals' without really considering the mechanism of these processes. The secret behind nerve transmission lies in the movement of ions across cell membranes, but there is an important difference in what happens in the cell body of a neuron compared to the axon. We shall consider what happens in the cell body first.

All cells contain sodium, potassium, calcium, and chloride ions and it is found that the concentration of these ions is different inside the cell compared to the outside. The concentration of potassium inside the cell is larger than the surrounding medium, whereas the concentration of sodium and chloride ions is smaller. Thus, a concentration gradient exists across the membrane.

Potassium is able to move down its concentration gradient (i.e. out of the cell), since it can pass through the potassium ion channels (Fig. A4.2). But if potassium ions can move out of the cell, why does the potassium concentration inside the cell not fall to equal that of the outside? The answer lies in the fact that potassium is a positively charged ion and as it leaves the cell an electric potential is set up across the cell membrane. This would not happen if a negatively charged counterion could

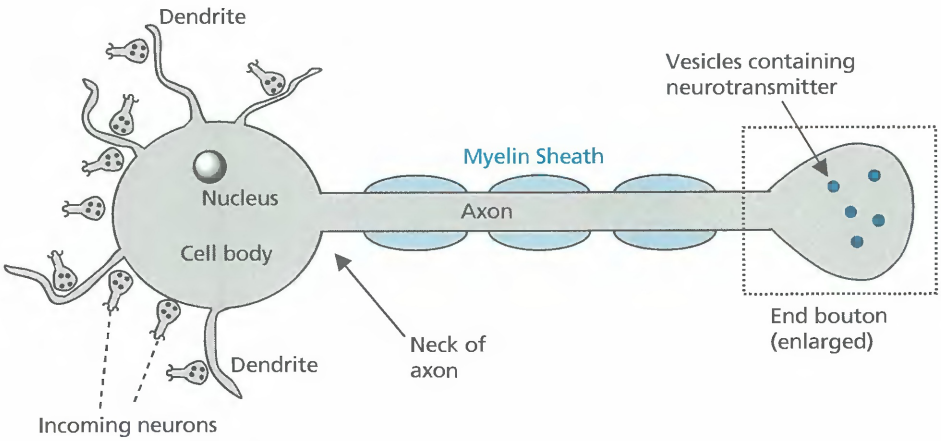


FIGURE A4.1 Structure of a typical nerve cell (neuron).

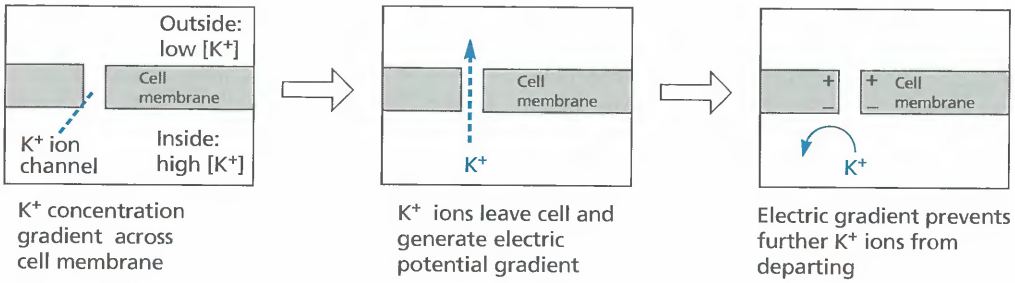


FIGURE A4.2 Generation of electric potential across a cell membrane.

leave with the potassium ion. However, the counterions in question are large proteins which cannot pass through the cell membrane. As a result, a few potassium ions are able to escape down the ion channels out of the cell and an electric potential builds up across the cell membrane such that the inside of the cell membrane is more negative than the outside. This electric potential (50–80 mV) opposes and eventually prevents the flow of potassium ions.

But what about the sodium ions? Could they flow into the cell along their concentration gradient to balance the charged potassium ions that are departing? The answer is that they cannot, because they are too big for the potassium ion channels. This appears to be a strange argument, as sodium ions are smaller than potassium ions, but it has to be remembered that we are dealing with an aqueous environment where the ions are solvated (i.e. they have a 'coat' of water molecules). Sodium, being a smaller ion than potassium, has a greater localization of charge and is able to bind its solvating water molecules more strongly. As a result, sodium along with its water coat is bigger than a potassium ion with or without its water coat.

Ion channels for sodium do exist and these channels are capable of removing the water coat around sodium and letting it through. However, the sodium ion channels are mostly closed when the neuron is in the resting state. As a result, the flow of sodium ions across the membrane is very small compared to potassium. Nevertheless, the presence of sodium ion channels is crucial to the transmission of a nerve signal.

To conclude, the movement of potassium across the cell membrane sets up an electric potential across the cell membrane which opposes this flow. Charged protein structures are unable to move across the membrane, while sodium ions cross very slowly, and so an equilibrium is established. The cell is polarized and the electric potential at equilibrium is known as the resting potential.

The number of potassium ions required to establish that potential is of the order of a few million compared to the several hundred billion present in the cell. Therefore the effect on concentration is negligible.

As mentioned above, potassium ions are able to flow out of potassium ion channels, but not all of these channels are open

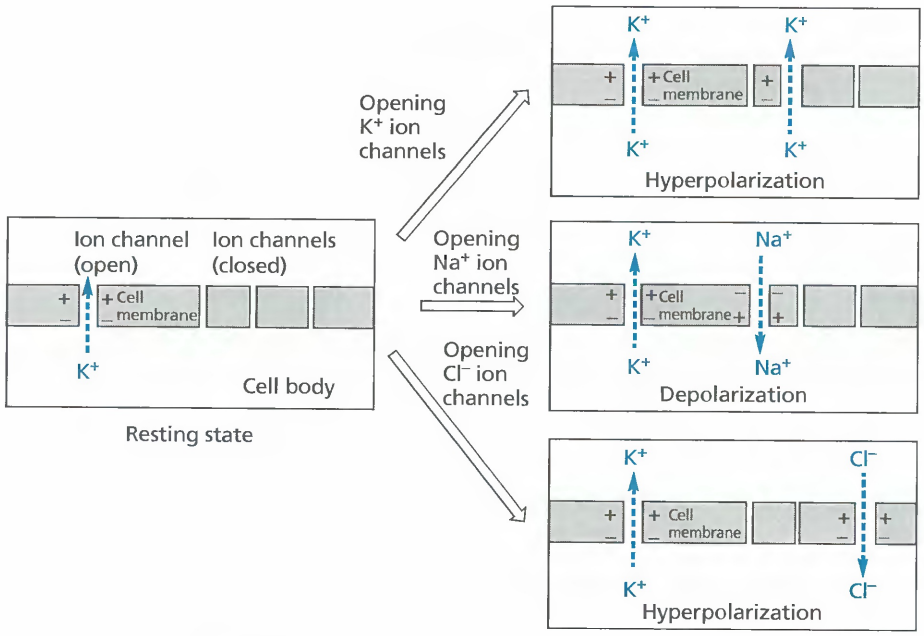


FIGURE A4.3 Hyperpolarization and depolarization.

in the resting state. What would happen if more were to open? The answer is that more potassium ions would flow out of the cell and the electric potential across the cell membrane would become more negative to counter this increased flow. This is known as hyperpolarization and the effect is to destimulate the neuron (Fig. A4.3).

Suppose instead that a few sodium ion channels were to open up. In this case, sodium ions would flow into the cell and as a result the electric potential would become less negative. This is known as depolarization and results in a stimulation of the neuron.

If chloride ions channels are opened, chloride ions flow into the cell and the cell membrane becomes hyperpolarized, destimulating the neuron.

Ion channels do not open or close by chance. They are controlled by the neurotransmitters released by communicating neurons. The neurotransmitters bind with their receptors and lead to the opening or closing of ion channels. For example, acetylcholine controls the sodium ion channel, whereas GABA and glycine control chloride ion channels. The resulting flow of ions leads to a localized hyperpolarization or depolarization in the area of the receptor. The cell body collects and sums all this information such that the neck of the axon experiences an overall depolarization or hyperpolarization depending on the sum total of the various excitatory or inhibitory signals received.

We shall now consider what happens at the axon of the neuron (Fig. A4.4). The cell membrane of the axon also has sodium and potassium ion channels but they are different in character from those in the cell body. The axon ion channels are not controlled by neurotransmitters, but by the electric potential of the cell membrane.

The sodium ion channels located at the junction of the nerve axon with the cell body are the crucial channels since they are the first channels to experience whether the cell body has been depolarized or hyperpolarized.

If the cell body is strongly depolarized then a signal is fired along the neuron. A specific threshold value has to be reached before this happens, however. If the depolarization from the cell body is weak, only a few sodium channels open up and the depolarization at the neck of the axon does not reach that threshold value. The sodium channels then reclose and no signal is sent.

With stronger depolarization, more sodium channels open up until the flow of sodium ions entering the axon becomes greater than the flow of potassium ions leaving it. This results in a rapid increase in depolarization, which in turn opens up more sodium channels, resulting in very strong depolarization

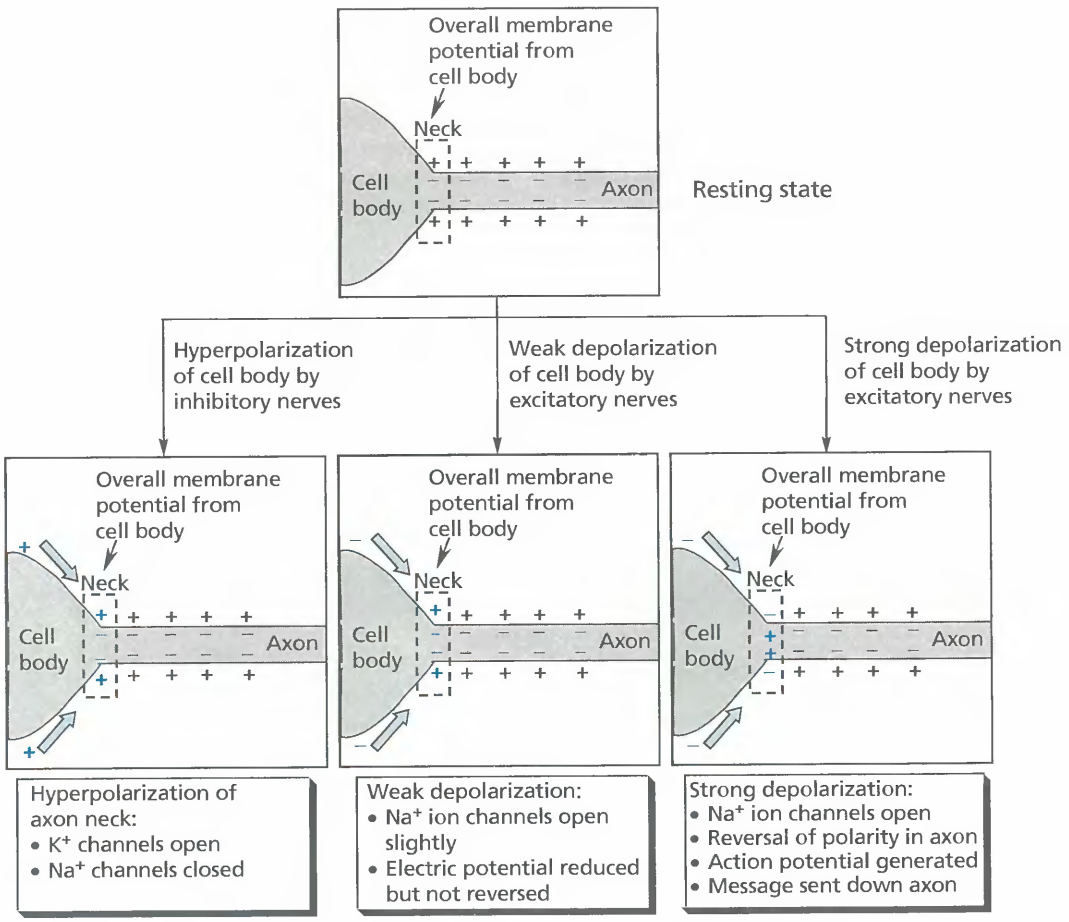


FIGURE A4.4 Hyperpolarization and depolarization effects at the neck of the axon.

at the neck of the axon. The flow of sodium ions into the cell increases dramatically, such that it is far greater than the flow of potassium ions out of the axon, and the electric potential across the membrane is reversed, such that it is positive inside the cell and negative outside the cell. This process lasts less than a millisecond before the sodium channels reclose and sodium permeability returns to its normal state. More potassium channels then open and permeability to potassium ions increases for a while to speed up the return to the resting state.

The process is known as an action potential and can only take place in the axon of the neuron. The cell membrane of the axon is said to be excitable, unlike the membrane of the cell body. The important point to note is that once an action potential has fired at the neck of the axon, it has reversed the polarity of the membrane at that point. This in turn has an effect on the neighbouring area of the axon and depolarizes it beyond the critical threshold level. It too fires an action potential and so the process continues along the whole length of the axon (Fig. A4.5). The number of ions involved in this process is minute, such that the concentrations are unaffected. Once the action potential reaches the synaptic button or the neuromuscular endplate, it causes an influx of calcium ions into the cell and an associated release of neurotransmitter into the synaptic gap. The mechanism of this is not well understood.

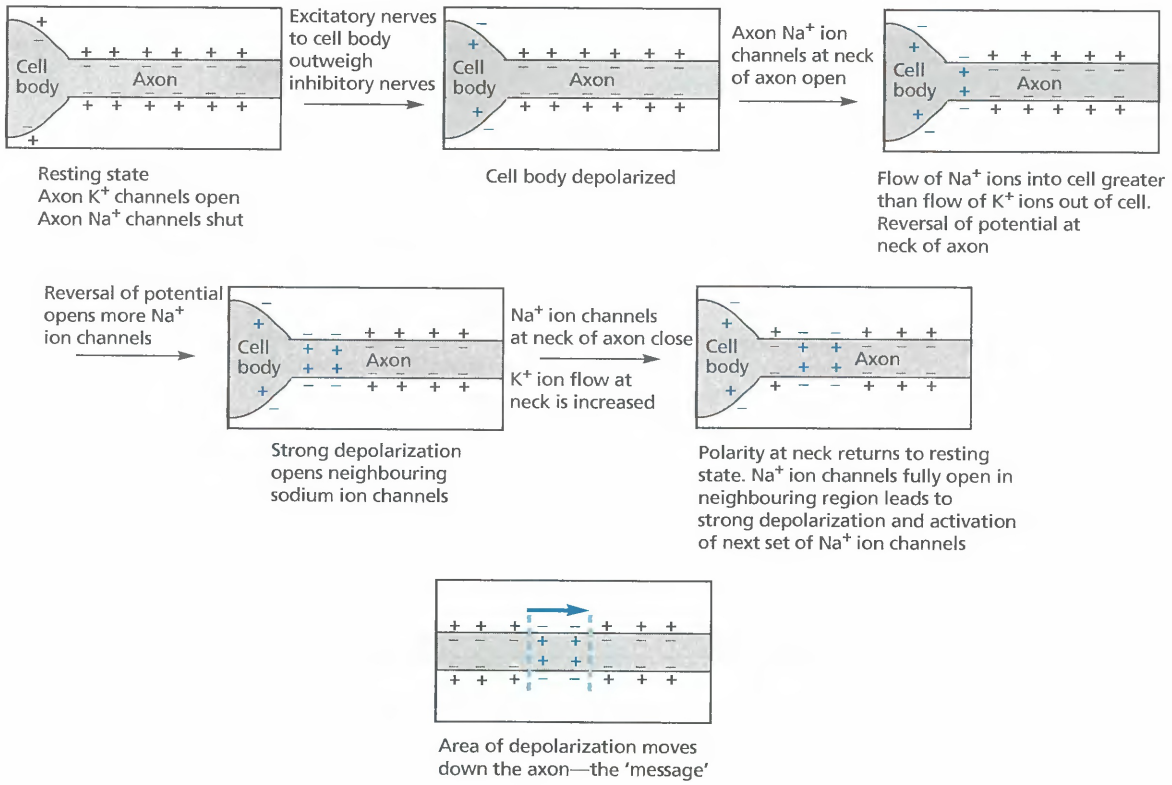


FIGURE A4.5 Generation of an action potential.

Appendix 5

Microorganisms

Bacterial nomenclature

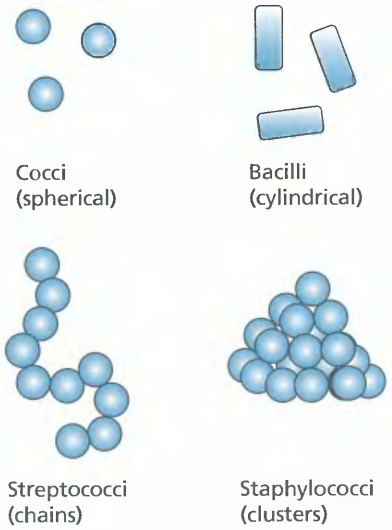


FIGURE A5.1 Bacterial nomenclature.

The Gram-stain

A staining procedure of great value in the identification of bacteria. The procedure is as follows:

1 Stain the cells purple.
2 Decolourize with organic solvent.
3 Stain the cells red.

This test will discriminate between two types of bacterial cell:

- Gram-negative bacteria are easily decolourized at stage two and will therefore be coloured red.
- Gram-positive bacteria resist the decolourization at stage 2 and will therefore remain purple.

Classifications

Bacteria can be classified as being Gram-positive or Gram-negative depending on what colour they retain on treatment with the Gram-stain procedure. They can also be classed as aerobic or anaerobic depending on their dependency on oxygen. Aerobic organisms grow in the presence of oxygen whereas anaerobic organisms do not.

Definitions of different microorganisms

- **Bacteria** are unicellular organisms that have a prokaryotic cell structure. They are diverse in nature, and some can carry out photosynthesis. Examples of typical infections are given in Table A5.1.

TABLE A5.1 Some clinically important bacteria

Organism	Gram	Infections
Staphylococcus aureus	Positive	Skin and tissue infections, septicaemia, endocarditis, accounts for about 25% of all hospital infections
Streptococcus	Positive	Several types—commonly cause sore throats, upper respiratory tract infections, and pneumonia
Escherichia coli	Negative	Urinary tract and wound infections, common in the gastrointestinal tract and often causes problems after surgery, accounts for about 25% of hospital infections
Proteus species	Negative	Urinary tract infections
Salmonella species	Negative	Food poisoning and typhoid
Shigella species	Negative	Dysentery
Enterobacter species	Negative	Urinary tract and respiratory tract infections, septicaemia
Pseudomonas aeruginosa	Negative	An opportunist pathogen, can cause very severe infections in burn victims and other compromised patients (e.g. cancer patients), commonly causes chest infections in patients with cystic fibrosis
Haemophilus influenzae	Negative	Chest and ear infections, occasionally meningitis in young children
Bacteroides fragilis	Negative	Septicaemia following gastrointestinal surgery

- **Blue green algae** are made up of prokaryotic cells that can form multicellular filaments and carry out photosynthesis in the same manner as the eukaryotic algae.
- **Algae,** with the exception of the blue green algae, are made up of eukaryotic cells and can perform oxygen-evolving photosynthesis. Some are unicellular and some are multicellular. Multicellular algae have little or no cell differentiation, which sets them apart from higher multicellular organisms such as plants and animals.
- **Protozoa** are unicellular eukaryotic organisms that are unable to carry out photosynthesis. They are responsible for diseases such as malaria, African sleeping sickness, Chagas' disease, leishmaniasis, and amoebic dysentery.
- **Fungi** are multicellular eukaryotic organisms with little or no cell differentiation, which can form long filaments of interconnected cells called mycelia. They too are unable to carry out photosynthesis. Fungi are responsible for infections such as athlete's foot, ringworm, aspergillosis, candidiasis, and histoplasmosis.

Appendix 6

Drugs and their trade names

Drug name (Trade name)
abacavir (Ziagen)
abciximab (ReoPro)
acebutolol (Sectral)
aciclovir (Virovir, Zovirax)
aclacinomycin A *see* aclarubicin
aclarubicin (Aclacin, Aclaplastin)
actinomycin D *see* dactinomycin
acyclovir *see* aciclovir
adalimumab (Humira)
adefovir dipivoxil (Hepsera)
adriamycin *see* doxorubicin
albuterol *see* salbutamol
aldesleukin (Proleukin)
alemtuzumab (MabCampath)
aliskiren (Tekturna)
allopurinol (Zyloric)
amantadine (Lysovir, Symmetrel)
aminoglutethimide (Orimeten, Cytadren)
amoxicillin (Amoxil)
amoxicillin with clavulanic acid (Augmentin)
amoxycillin *see* amoxicillin
amphotericin (Fungilin, Fungizone)
ampicillin (Penbritin)
ampicillin and flucloxacillin (Co-fluampicil)
amprenavir (Agenerase)
amsacrine (Amsidine)
anastrazole (Arimidex)
arsenic trioxide (Trisenox)
atazanavir (Reyataz)
atenolol (Tenormin)
atomoxetine (Strattera)
atorvastatin (Lipitor)
atracurium (Tracrium)
azathioprine (Imuran)
azidothymidine *see* zidovudine
azithromycin (Zithromax)
AZT *see* zidovudine
aztreonam (Azactam)
bacitracin and neomycin sulfate (Cicatrin)
bacitracin and polymyxin B sulfate (Polyfax)
benzatropine (Cogentin)
benzhexol *see* trihexyphenidyl
benztropine *see* benzatropine
benzylpenicillin (Crystapen)
betaxolol (Betoptic)
bethanechol (Myotonine)
bevacixumab (Avastin)
bortezomib (Velcade)
bupivicaine (Marcaine)
buprenorphine (Subutex, Temgesic, Transtec)
bupropion (Zyban)
busulfan (Busilvex, Myleran)
busulphan *see* busulfan
capecitabine (Xeloda)
captopril (Capoten)
carbenoxolone (Pyrogastrone)
carbidopa with levodopa *see* co-careldopa
carboplatin (Paraplatin)
carmustine (BCNU, BiCNU, Gliadel)
cefalexin (Ceporex, Keflex, Keftab, Biocef)
cefalothin (Keflin)
cefotaxime (Claforan)
cefoxitin (Mefoxin)
cefpirome (Cefrom)
ceftazidime (Fortum, Kefadim)
ceftriaxone (Rocephin)
cefuroxime (Zinacef, Zinnat, Kefurox)
celecoxib (Celebrix)
cephalexin *see* cefalexin
cephalothin *see* cefalothin
cerivastatin (Baycol)
cetuximab (Erbitux)
chlorambucil (Leukeran)
chloramphenicol (Kemicetine, Chloromycetin)
chlordiazepoxide (Librium)
chloroquine (Avloclor, Nivaquine)
chlorpromazine (Largactil)
chlortetracycline, demeclocycline and tetracycline (Deteclo)
cholestyramine *see* colestyramine
ciclosporin (Neoral, Sandimmun)
cidofovir (Vistide)
cilastatin with imipenem (Primaxin)
cilazapril (Vascace)
cimetidine (Dyspamet, Tagamet)
ciprofloxacin (Ciproxin, Ciprobay, Cipro, Ciproxan)
citalopram (Cipramil)
clarithromycin (Clarosip, Klaricid)
clavulanic acid with amoxicillin (Augmentin)
clindamycin (Dalacin C)
clonidine (Catapres, Dixarit)
clozapine (Clozaril)
co-amoxiclav (Augmentin)
co-careldopa (Sinemet, Stalevo)
colestyramine (Questran)
co-trimoxazole (Septrin)
compactin (Mevastatin)
crisantaspase (Erwinase)
cyclopentolate (Mydrilate)
cyclophosphamide (Endoxana)
cyclosporin *see* ciclosporin
cyproterone acetate (Cyprostat)
dacarbazine (DTIC-Dome)
daclizumab (Zenapax)
dactinomycin (Cosmegen Lyovac)
dalfopristin with quinupristin (Synercid)
daptomycin (Cubicin)
darunavir (Prezita)
dasatinib (Sprycel)
daunorubicin (DaunoXome)
delavirdine (Rescriptor)
demeclocycline, chlortetracycline, and tetracycline (Deteclo)
diazepam (Valium)
didanosine (Videx)
digoxin (Lanoxin)
diphenhydramine (Benadryl)
disulfiram (Antabuse)
dobutamine (Dobutrex, Posiject)
docetaxel (Taxotere)
donepezil (Aricept)
doxazosin (Cardura)
doxorubicin (Rubex, Doxil)
doxycycline (Vibramycin)

duloxetine (Cymbalta, Yentreve)
efavirenz (Sustiva)
emtricitabine (Emtriva)
emtricitabine and tenofovir (Travuda)
emtricitabine, tenofovir and efavirenz (Atripla)
enalapril (Innovace)
enfuvirtide (Fuzeon)
epirubicin (Pharmorubicin)
erlotinib (Tarceva)
ertapenem (Invanz)
erythromycin (Erymax, Erythrocin, Erythroped)
escitalopram (Cipralex)
esomeprazole (Nexium)
estramustine (Estracyt)
etanercept (Enbrel)
etoposide (Etopophos, Vepesid)
famciclovir (Famvir)
famotidine (Pepcid)
fentanyl (Sublimaze, Actiq, Durogesic)
fexofenadine (Allegra, Telfast)
filgrastim (Neupogen)
flucloxacillin (Floxapen)
flucloxacillin and ampicillin (Co-fluampicil)
fluconazole (Diflucan)
fludarabine (Fludara)
fluorouracil (Efudix)
fluoxetine (Prozac)
fluphenazine decanoate (Modecate)
flutamide (Drogenil)
fluvastatin (Lescol)
fluvoxamine (Faverin)
fomivirsen (Vitravene)
fosamprenavir (Lexiva, Telzir)
foscarnet (Foscavir)
fulvestrant (Faslodex)
fusidic acid (Fucidin)
gabapentin (Neurontin)
galantamine (Reminyl)
galanthamine *see* galantamine
ganciclovir (Cymevene)
gefitinib (Iressa)
gemcitabine (Gemzar)
gemtuzumab (Mylotarg)
gentamicin (Cidomycin, Genticin)
goserelin (Zoladex)
granisetron (Kytril)
guanethidine (Ismelin)
hexamine *see* methenamine
hydrocortisone and polymyxin B (Otosprin)
hyoscine (Scopoderm TTS)
ibritumomab (Zevalin)
idarubicin (Zavedos)
idoxuridine (Herpid)
ifosfamide (Mitoxana)
imatinib (Glivec)
imipenem and cilastatin (Primaxin)
imipramine (Tofranil)
imiquimod (Aldara)
indinavir (Crixivan)
indometacin (Rimacid)
indomethacin *see* indometacin
infliximab (Remicade)
α-interferon (IntronA, Roferon-A, Viraferon)
γ-interferon (Immukin)
ipratropium (Atrovent, Ipratropium Steri-Neb, Respontin)
irinotecan (Campto, Camptosar)
lamivudine (Epivir, Zeffix)
lansoprazole (Zoton)
lapatinib (Tykerb)
lenalidomide (Revlimid)
L-dopa *see* levodopa
letrozole (Femera)
levalbuterol (Xopenex)
levobupivacaine (Chirocaine)
levodopa with carbidopa *see* co-careldopa
levofloxacin (Levaquin, Tavanic)
lidocaine (Xylocaine)
lignocaine *see* lidocaine
linezolid (Zyvox)
lisinopril (Carace, Zestril, Prinivil)
lithium carbonate (Camcolit, Liskonum, Priadel)
lomustine (CCNU)
loperamide (Imodium)
lopinavir with ritonavir (Kaletra)
losartan (Cozaar)
lovastatin (Mavacor)
lucanthone (Miracil D)
malathion (Derbac-M, Prioderm, Quellada M, Suleo-M)
maraviroc (Celsentri)
medroxyprogesterone acetate (Farlutal, Provera)
megestrol acetate (Megace)
melphalan (Alkeran)
meperidine *see* pethidine
mercaptopurine (Puri-Nethol)
meropenem (Meronem)
mesna (Uromitexan)
methadone (Methadose)
methenamine (Hiprex)
methyldopa (Aldomet)
methylphenidate (Ritalin)
metoclopramide (Maxolon)
metoprolol (Betaloc, Lopresor, Corvitol)
metronidazole (Flagyl, Metrolyl)
mirtazepine (Zispin)
mitoxantrone (Novantrone, Onkotrone)
mivacurium (Mivacron)
moclobemide (Manerix)
morphine (Oramorph, Sevredol, Morcap, Morphgesic, MST Cintinus, MXL, Zomorph)
moxifloxacin (Avelox, Avalox, Vigamox)
mupirocin (Bactroban)
nadolol (Corgard)
nalidixic acid (Mictral, Negram, Uriben)
naloxone (Narcan)
naltrexone (Nalorex)
nelfinavir (Viracept)
neomycin (Maxitrol)
neomycin sulfate and bacitracin (Cicatrin)
nevirapine (Viramune)
nicotine (Nicorette, Nicotinell, NiQuitin CQ)
nilotinib (Tasigna)
nitrofurantoin (Furadantin, Macrobid, Macrodantin)
nizatidine (Axid)
oblimersen (Genasense)
oflaxacin (Floxin, Tarivid)
olanzapine (Zyprexa)
omalizumab (Xolair)
omeprazole (Losec, Prilosec)
ondansetron (Zofran)
oseltamivir (Tamiflu)
oxaliplatin (Eloxatin)
oxamniquine (Mansil, Vansil)
oxprenolol ((Trasicor)
oxytocin (Syntocinon)
paclitaxel (Taxol)
palivizumab (Synagis)
pantoprazole (Protium)
paroxetine (Seroxat)

pegademase PEG-adenosine deaminase (Adagen)
pegaptanib (Macugen)
pegaspargase PEG-asparaginase (Oncaspar)
pegfilgrastim (Neulasta)
peginterferon α2a PEG-(IFN-α-2a) (Pegasys)
peginterferon α2b PEG-(IFN-α-2b) (Peg-Intron)
pegvisomant (Somavert)
penciclovir (Vectavir)
penicillin G *see* benzylpencillin
penicillin V *see* phenoxymethylpenicillin
pentazocine (Fortral)
pentostatin (Nipent)
pethidine (Pamergan P100)
phenelzine (Nardil)
phenoxymethylpenicillin (Apsin)
pilocarpine (Pilogel)
piperacillin and tazobactam (Tazocin or Zosyn)
pleconaril (Picovir)
podophyllotoxin (Condyline, Warticon)
polymyxin B and bacitracin (Polyfax)
polymyxin B and hydrocortisone (Otosprin)
pravastatin (Pravachol)
praziquantel (Cysticide)
prazosin (Hypovase)
probenecid (Probecid, Benuryl)
promethazine (Phenergan)
propranolol (Inderal)
propantheline bromide (Pro-Banthine)
pseudoephedrine (Galseud or Sudafed)
pyridostigmine (Mestinon)
pyrimethamine with sulfadoxine (Fansidar)
quinupristin with dalfopristin (Synercid)
rabeprazole (Pariet)
raltegravir (Isentress)
raltitrexed (Tomudex)
raloxifene (Evista)
ranitidine (Zantac)
reboxetine (Edronax)
ribavirin (Copegus, Rebetol, Virazole)
rifampicin (Rifadin, Rimactane, Rifater, Rifinah, Rimactazid)
risperidone (Risperdal)
ritonavir (Norvir)
rituximab (Rituxan, MabThera)
rivastigmine (Exelon)
rofecoxib (Vioxx)
rosuvastatin (Crestor)
salbutamol (Ventmax, Ventolin, Volmax, Airomir, Asmasal Clickhaler, Salamol Easi-Breathe, Ventodisks)
salmeterol (Serevent)
saquinavir (Fortovase, Invirase)
selegiline (Deprenyl, Eldepryl, Zelapar)
sertraline (Lustral)
sildenafil (Viagra)
simvastatin (Zocor)
sorafenib (Nexavar)
stavudine (Zerit)
suberoylanilide hydroxamic acid *see* vorinostat
sulfadoxine with pyrimethamine (Fansidar)
sumatriptan (Imigran)
sunitinib (Sutent)
suxamethonium (Anectine)
tacrine (Cognex)
tamoxifen (Nolvadex)
tazobactam with piperacillin (Tazocin or Zosyn)
teicoplanin (Targocid)
telithromycin (Katek)
temocillin (Negaban)
temoporfin (Foscan)
temozolomide (Temodar, Temodal)
temsirolimus (Torisel)
teniposide (Vumon)
tenofovir (Viread)
terazosin (Hytrin)
testosterone propionate (Sustanon 250, Virormone)
tetracycline, chlortetracycline, and demeclocycline (Deteclo)
theophylline (Nuelin, Slo-Phyllin, Uniphyllin Continus)
thioguanine *see* tioguanine
ticarcillin with clavulanic acid (Timentin)
timolol (Betim)
tioconazole (Trosyl)
tioguanine (Lanvis)
tipifarnib (Zarnestra)
tirofiban (Aggrastat)
tobramycin (Nebcin, Tobi)
topotecan (Hycamtin, Hycamptin)
toremifene (Fareston)
tositumomab (Bexxar)
trastuzumab (Herceptin)
tretinoin (Vesanoid)
trihexyphenidyl (Broflex)
trimethoprim (Monotrim, Trimopan)
tropicamide (Mydriacyl)
valaciclovir (Valtrex)
valdecoxib (Bextra)
valganciclovir (Valcyte)
vancomycin (Vancocin)
vasopressin (Pitressin)
vecuronium (Norcuron)
venlafaxine (Fluanxol)
verapamil (Cordilox, Securon)
vinblastine (Velbe)
vincristine (Oncovin)
vindesine (Eldisine)
vinorelbine (Navelbine)
vorinostat (Zolinza)
zalcitabine (Hivid)
zanamivir (Relenza)
zidovudine (Retrovir)

Trade name (drug name)
Aclacin (aclarubicin)
Aclaplastin (aclarubicin)
Actiq (fentanyl)
Adagen (pegademase)
Agenerase (amprenavir)
Aggrastat (tirofiban)
Airomir (salbutamol)
Aldara (imiquimod)
Aldomet (methyldopa)
Alkeran (melphalan)
Allegra (fexofenadine)
Amoxil (amoxicillin)
Amsidine (amsacrine)
Anectine (suxamethonium)
Antabuse (disulfiram)
Apsin (phenoxymethylpenicillin)
Aricept (donepezil)
Arimidex (anastrazole)
Asmasal Clickhaler (salbutamol)
Atripla (emtricitabine, tenofovir and efavirenz)
Atrovent (ipratropium)
Augmentin (amoxicillin with clavulanic acid)

Augmentin (clavulanic acid with amoxicillin)
Augmentin (co-amoxiclav)
Avastin (bevacixumab)
Avalox (moxifloxacin)
Avelox (moxifloxacin)
Avloclor (chloroquine)
Axid (nizatidine)
Azactam (aztreonam)
Bactroban (mupirocin)
Baycol (cerivastatin)
BCNU (carmustine)
Benadryl (diphenhydramine)
Benuryl (probenicid)
Betaloc (metoprolol)
Betim (timolol)
Betoptic (betaxolol)
Bextra (valdecoxib)
Bexxar (tositumomab)
BiCNU (carmustine)
Biocef (cefalexin)
Broflex (trihexyphenidyl)
Busilvex (busulfan)
Camcolit (lithium carbonate)
Campto (irinotecan)
Camptosar (irinotecan)
Capoten (captopril)
Carace (lisinopril)
Cardura (doxazosin)
Catapres (clonidine)
CCNU (lomustine)
Cefrom (cefpirome)
Celebrix (celecoxib)
Celsentri (maraviroc)
Ceporex (cefalexin)
Chirocaine (levobupivicaine)
Chloromycetin (chloramphenicol)
Cicatrin (Bacitracin and neomycin sulfate)
Cidomycin (gentamicin)
Cipralex (escitalopram)
Cipramil (citalopram)
Cipro (ciprofloxacin)
Ciprobay (ciprofloxacin)
Ciproxan (ciprofloxacin)
Ciproxin (ciprofloxacin)
Claforan (cefotaxime)
Clarosip (clarithromycin)
Clozaril (clozapine)
Co-fluampicil (ampicillin and flucloxacillin)
Cogentin (benzatropine)
Cognex (tacrine)
Condyline (podophyllotoxin)
Copegus (ribavirin)
Cordilox (verapamil)
Corgard (nadolol)
Corvitol (metoprolol)
Cosmegen Lyovac (dactinomycin)
Cozaar (losartan)
Crestor (rosuvastatin)
Crixivan (indinavir)
Crystapen (benzylpenicillin)
Cubicin (daptomycin)
Cymbalta (duloxetine)
Cymevene (gangciclovir)
Cyprostat (cyproterone acetate)
Cysticide (praziquantel)
Cytadren (aminoglutethimide)
Dalacin C (clindamycin)
DaunoXome (daunorubicin)
Deprenyl (selegiline)
Derbac-M (malathion)
Deteclo (chlortetracycline, demeclocycline and tetracycline)
Diflucan (fluconazole)
Dixarit (clonidine)
Dobutrex (dobutamine)
Doxil (doxorubicin)
Drogenil (flutamide)
DTIC-Dome (dacarbazine)
Durogesic (fentanyl)
Dyspamet (cimetidine)
Edronax (reboxetine)
Efudix (fluorouracil)
Eldepryl (selegiline)
Eldisine (vindesine)
Eloxatin (oxaliplatin)
Emtriva (emtricitabine)
Enbrel (etanercept)
Endoxana (cyclophosphamide)
Epivir (lamivudine)
Erbitux (cetuximab)
Erwinase (crisantaspase)
Erymax (erythromycin)
Erythrocin (erythromycin)
Erythroped (erythromycin)
Estracyt (estramustine)
Etopophos (etoposide)
Evista (raloxifene)
Exelon (rivastigmine)
Famvir (famciclovir)
Fansidar (sulfadoxine with pyrimethamine)
Fareston (toremifene)
Farlutal (medroxyprogesterone acetate)
Faslodex (fulvestrant)
Faverin (fluvoxamine)
Femera (letrozole)
Flagyl (metronidazole)
Floxapen (flucloxacillin)
Floxin (oflaxacin)
Fluanxol (venlafaxine)
Fludara (fludarabine)
Fortovase (saquinavir)
Fortral (pentazocine)
Fortum (ceftazidime)
Foscan (temoporfin)
Foscavir (foscarnet)
Fucidin (fusidic acid)
Fungilin (amphotericin)
Fungizone (amphotericin)
Furadantin (nitrofurantoin)
Fuzeon (enfuvirtide)
Galseud (pseudoephedrine)
Gemzar (gemcitabine)
Genasense (oblimersen)
Genticin (gentamicin)
Gliadel (carmustine)
Glivec (imatinib)
Hepsera (adefovir dipivoxil)
Herceptin (trastuzumab)
Herpid (idoxuridine)
Hiprex (methenamine)
Hivid (zalcitabine)
Humira (adalimumab)
Hycamptin (topotecan)
Hycamtin (topotecan)
Hypovase (prazosin)
Hytrin (terazosin)
Imigran (sumatriptan)
Immukin (γ-interferon)
Imodium (loperamide)
Imuran (azathioprine)
Inderal (propranolol)
Innovace (enalapril)
IntronA (α-interferon)
Invanz (ertapenem)
Invirase (saquinavir)
Ipratropium Steri-Neb (ipratropium)
Iressa (gefitinib)
Isentress (raltegravir)
Ismelin (guanethidine)
Kaletra (lopinavir with ritinavir)
Katek (telithromycin)
Kefadim (ceftazidime)
Keflex (cefalexin)
Keflin (cefalothin)
Keftab (cefalexin)
Kefurox (cefuroxime)

Kemicetine (chloramphenicol)
Klaricid (clarithromycin)
Kytril (granisetron)
Lanoxin (digoxin)
Lanvis (tioguanine)
Largactil (chlorpromazine)
Lescol (fluvastatin)
Leukeran (chlorambucil)
Levaquin (levofloxacin)
Lexiva (fosamprenavir)
Librium (chlordiazepoxide)
Lipitor (atorvastatin)
Liskonum (lithium carbonate)
Lopresor (metoprolol)
Losec (omeprazole)
Lustral (sertraline)
Lysovir (amantadine)
MabCampath (alemtuzumab)
MabThera (rituximab)
Macrobid (nitrofurantoin)
Macrodantin (nitrofurantoin)
Marcaine (bupivicaine)
Macugen (pegaptanib)
Manerix (moclobemide)
Mansil (oxamniquine)
Maxitrol (neomycin)
Maxolon (metoclopramide)
Mefoxin (cefoxitin)
Megace (megestrol acetate)
Meronem (meropenem)
Mestinon (pyridostigmine)
Methadose (methadone)
Metrolyl (metronidazole)
Mevacor (lovastatin)
Mevastatin (compactin)
Mictral (nalidixic acid)
Mircel D (lucanthone)
Mitoxana (ifosfamide)
Mivacron (mivacurium)
Modecate (fluphenazine decanoate)
Monotrim (trimethoprim)
Morcap (morphine)
Morphgesic (morphine)
MST Cintinus (morphine)
MXL (morphine)
Mydriacyl (tropicamide)
Mydrilate (cyclopentolate)
Myleran (busulfan)
Mylotarg (gemtuzumab)
Myotonine (bethanechol)
Nalorex (naltrexone)
Narcan (naloxone)
Nardil (phenelzine)
Navelbine (vinorelbine)
Nebcin (tobramycin)
Negaban (temocillin)
Negram (nalidixic acid)
Neoral (ciclosporin)
Neulasta (pegfilgrastim)
Neupogen (filgrastim)
Neurontin (gabapentin)
Nexavar (sorafenib)
Nexium (esomeprazole)
Nicorette (nicotine)
Nicotinell (nicotine)
Nipent (pentostatin)
NiQuitin CQ (nicotine)
Nivaquine (chloroquine)
Nolvadex (tamoxifen)
Norcuron (vecuronium)
Norvir (ritonavir)
Novantrone (mitoxantrone)
Nuelin (theophylline)
Oncaspar (pegaspargas PEG-asparaginase)
Oncovin (vincristine)
Onkotrone (mitoxantrone)
Oramorph (morphine)
Orimeten (aminoglutethimide)
Otosprin (hydrocortisone and polymyxin B)
Pamergan P100 (pethidine)
Paraplatin (carboplatin)
Pariet (rabeprazole)
Peg-Intron (peginterferon α2b)
Pegasys (peginterferon α2a)
Penbritin (ampicillin)
Pepcid (famotidine)
Pharmorubicin (epirubicin)
Phenergan (promethazine)
Picovir (pleconaril)
Pilogel (pilocarpine)
Pitressin (vasopressin)
Polyfax (bacitracin and polymyxin B sulfate)
Posiject (dobutamine)
Pravachol (pravastatin)
Prezita (darunavir)
Priadel (lithium carbonate)
Prilosec (omeprazole)
Primaxin (cilastatin with imipenem)
Prinivil (lisinopril)
Prioderm (malathion)
Pro-Banthine (propantheline bromide)
Probecid (probenicid)
Proleukin (aldesleukin)
Protium (pantoprazole)
Provera (medroxyprogesterone acetate)
Prozac (fluoxetine)
Puri-Nethol (mercaptopurine)
Pyrogastrone (carbenoxolone)
Quellada M (malathion)
Questran (colestyramine)
Rebetol (ribavirin)
Relenza (zanamivir)
Remicade (infliximab)
Reminyl (galantamine)
ReoPro (abciximab)
Rescriptor (delavirdine)
Respontin (ipratropium)
Retrovir (zidovudine)
Revlimid (lanalidomide)
Reyataz (atazanavir)
Rifadin (rifampicin)
Rifater (rifampicin)
Rifinah (rifampicin)
Rimacid (indometacin)
Rimactane (rifampicin)
Rimactazid (rifampicin)
Risperdal (risperidone)
Ritalin (methylphenidate)
Rituxan (rituximab)
Rocephin (ceftriaxone)
Roferon-A (α-interferon)
Rubex (doxorubicin)
Salamol Easi-Breathe (salbutamol)
Sandimmun (ciclosporin)
Scopoderm TTS (hyoscine)
Sectral (acebutolol)
Securon (verapamil)
Septrin (co-trimoxazole)
Serevent (salmetrol)
Seroxat (paroxetine)
Sevredol (morphine)
Sinemet (co-careldopa)
Slo-Phyllin (theophylline)
Somavert (pegvisomant)
Sprycel (dasatinib)
Stalevo (co-careldopa)
Stratter (atomoxetine)
Sublimaze (fentanyl)
Subutex (buprenorphine)
Sudafed (pseudoephedrine)
Suleo-M (malathion)
Sustanon 250 (testosterone propionate)
Sustiva (efavirenz)
Sutent (sunitinib)

Symmetrel (amantadine)
Synagis (palivizumab)
Synercid (dalfopristin with quinupristine)
Syntocinon (oxytocin)
Tagamet (cimetidine)
Tamiflu (oseltamivir)
Tarceva (erlotinib)
Targocid (teicoplanin)
Tarivid (ofloxacin)
Tasigna (nilotinib)
Tavanic (levofloxacin)
Taxol (paclitaxel)
Taxotere (docetaxel)
Tazocin (tazobactam with piperacillin)
Tekturna (aliskiren)
Telfast (fexofenadine)
Telzir (fosamprenavir)
Temgesic (buprenorphine)
Temodal (temozolomide)
Temodar (temozolomide)
Tenormin (atenolol)
Timentin (ticarcillin with clavulanic acid)
Tobi (tobramycin)
Tofranil (imipramine)
Tomudex (ralitirexed)
Torisel (temsirolimus)
Tracrium (atracurium)
Transtec (buprenorphine)
Trasicor (oxprenolol)
Trimopan (trimethoprim)
Trisenox (arsenic trioxide)
Trosyl (tioconazole)
Truvada (emtricitabine and tenofovir)
Tykerb (lapatinib)
Uniphyllin Continus (theophylline)
Uriben (nalidixic acid)
Uromitexan (mesna)
Valcyte (valganciclovir)
Valium (diazepam)
Valtrex (valaciclovir)
Vancocin (vancomycin)
Vansil (oxamniquine)
Vascace (cilazapril)
Veasnoid (tretinoin)
Vectavir (penciclovir)
Velbe (vinblastine)
Velcade (bortezomib)
Ventmax (salbutamol)
Ventodisks (salbutamol)
Ventolin (salbutamol)
Vepesid (etoposide)
Viagra (sildenafil)
Vibramycin (deoxycycline)
Videx (didanosine)
Vigamox (moxifloxacin)
Vioxx (rofecoxib)
Viracept (nelfinavir)
Viraferon (α-interferon)
Viramune (nevirapine)
Virazole (ribavirin)
Viread (tenofovir)
Virormone (testosterone propionate)
Virovir (aciclovir)
Vistide (cidofovir)
Vitravene (fomivirsen)
Volmax (salbutamol)
Vumon (teniposide)
Warticon (podophyllotoxin)
Xeloda (lapatinib)
Xolair (omalizumab)
Xopenex (levalbuterol)
Xylocaine (lidocaine)
Yentreve (duloxetine)
Zantac (ranitidine)
Zarnestra (tipifarnib)
Zavedos (idarubicin)
Zeffix (lamivudine)
Zelapar (selegiline)
Zenapax (daclizumab)
Zerit (stavudine)
Zestril (lisinopril)
Zevalin (ibritumomab)
Ziagen (abacavir)
Zinacef (cefuroxime)
Zinnat (cefuroxime)
Zispin (mirtazepine)
Zithromax (azithromycin)
Zocor (simvastatin)
Zofran (ondansetron)
Zoladex (goserelin)
Zolinza (vorinostat)
Zomorph (morphine)
Zosyn (tazobactam with piperacillin)
Zoton (lansoprazole)
Zovirax (aciclovir)
Zyban (bupropion)
Zyloric (allopurinol)
Zyprexa (olanzapine)
Zyvox (linezolid)