



ACROSS

- 1 The _____ factor (also known as F factor or sex factor) is a bacterial DNA sequence that allows a bacterium to produce a sex pilus necessary for conjugation.
- 3 The _____ chain reaction is a technique widely used in molecular biology to exponentially amplify a fragment of DNA by in vitro enzymatic replication.
- 5 The term DNA _____ encompasses biochemical methods for determining the order of the nucleotide bases in a DNA oligonucleotide.
- 6 _____ bacteria refers to bacteria which have been genetically engineered.
- 8 _____ chromatography is a chromatographic method of separating biochemical mixtures, based on a highly specific biologic interaction such as that between antigen and antibody or enzyme and substrate.
- 13 _____ is the collective term for laboratory techniques which separate

- analytes dissolved in a mobile phase by passing them through a stationary phase.
- 16 _____ electrophoresis separates biological macromolecules based on their size to charge ratio in the interior of a very narrow tube filled with an electrolyte.
- 18 DNA _____ is an analytical technique used to separate DNA fragments by size though the use of an electric field which forces the fragments to migrate through a gel.
- 20 _____ is a separation process in which a certain quantity of a mixture is divided up in a large number of smaller quantities in which the composition changes according to a gradient.
- 22 In _____ technique an unknown amount of antigen is affixed to a surface, and then a specific labeled antibody is washed over the surface so that it can bind the antigen.
- 23 _____ refers to the liquid or clear fluid above a sediment or precipitate.
- 25 _____-PAGE, officially

- sodium dodecyl sulfate polyacrylamide gel electrophoresis, is a technique used to separate proteins according to their electrophoretic mobility.
- 28 _____ is the genetic alteration of a cell resulting from the uptake and expression of foreign genetic material.
- 30 The _____ is a centrifuge optimized for spinning a rotor at very high speeds, capable of generating acceleration as high as 1,000,000 g.
- 31 Ion-_____ chromatography is a process that allows the separation of ions and polar molecules based on the charge properties of the molecules.
- 32 In peptide mass _____ an unknown protein is cleaved into peptides by a protease such as Trypsin to form a collection of peptides serving as a unique identifier of the unknown protein.
- DOWN**
- 2 Gel _____ is a technique used for the

- separation of biological molecules using an electric field.
- 3 A _____ is a DNA molecule separate from chromosomal DNA which is capable of autonomous replication. It is typically circular and double-stranded.
- 4 Thin _____ chromatography is a chromatography technique involving a stationary phase consisting of a thin patina of adsorbent material immobilised on a flat, inert carrier sheet.
- 7 A _____ enzyme is an enzyme that cuts double-stranded DNA in such a way that the fragments from different chromosomes or genes can be spliced together by ligases.
- 9 _____ is a material used to form a common type of electrophoresis gel which is derived from the cell membranes of some species of red algae or seaweed.
- 10 _____ degradation is a method of sequencing amino acids in a peptide in which the amino-terminal

- residue is labeled and cleaved from the peptide without disrupting the peptide bonds between other amino acid residues.
- 11 _____ is a process that involves the use of the centripetal force for the separation of mixtures.
- 12 _____ are nucleotides lacking a three prime hydroxyl group on their deoxyribose sugar. After one is added by a DNA polymerase to a growing nucleotide chain, no further nucleotides can be added.
- 14 A _____ is a hairlike appendage found on the surface of many bacteria.
- 15 A hybridization _____ is a labeled fragment of DNA of variable length which is used to detect the presence of nucleotide sequences that are complementary to the sequence in the fragment.
- 17 _____ is a general term in biochemistry that applies to any use of an antibody-based method to detect a specific protein in a sample.
- 19 _____ is the process of separating molecules in solution by the difference in their rates of diffusion through a semipermeable membrane.
- 21 A restriction _____ is a procedure which uses a restriction enzyme to selectively cleave DNA strands into shorter segments, which are more suitable for analytical techniques such as chromatography.
- 24 A _____ is a phage genome inserted as part of the linear structure of the DNA chromosome of a bacterium.
- 26 In _____ sequencing, DNA is broken up randomly into numerous small segments, which are sequenced. The process is repeated until multiple overlapping reads for the target DNA are obtained
- 27 Molecular _____ refers to the procedure of isolating a defined DNA sequence and obtaining multiple copies of it in vivo.
- 28 _____ polymerase is a thermostable DNA polymerase named after the thermophilic bacterium *Thermus aquaticus* from which it was isolated. This enzyme is able to withstand the high temperature required during PCR.
- 29 A cloning _____ is a small DNA vehicle that carries a foreign DNA fragment.