4830969

PROCESS FOR THE RAPID AND SIMPLE ISOLATION OF NUCLEIC ACIDS

David S Holmes assigned to The Research Foundation of State University of New York

A process for the separation from other cellular materials of heat agglomeration resistant water soluble nitrogen containing organic compounds such as plasmids, RNA's, mitochondrial DNA's, viral DNA's, chloroplast DNA's, other episomal DNA's and certain proteins. The process comprises heating cellular materials in a solution of lysing agent to lyse the desired cells and to agglomerate water soluble nitrogen containing compounds such as certain chromosomal DNA's which are not resistant to agglomeration; centrifuging the resulting product to remove water soluble agglomerated materials; separating the supernatant liquid and precipitating the water soluble agglomeration resistant organic compounds with a water soluble precipitant. The process also includes separating the agglomeration resistant water soluble nitrogen containing compounds from each other by means of exclusion chromotography.

4831120

METHOD FOR RECOVERING A PURIFIED ANIMAL GROWTH HORMONE OR POLYPEPTIDE ANALOG THEREOF FROM A BACTERIAL CELL

Haim Aviv, Marian Gorecki, Avigdor Levanon, Amos Oppenheim, Tikva Vogel, Elisha Zeelon, Menachem Zeevi, Rehovot, Israel assigned to Bio-Technology General Corp

An improved vector upon introduction into a suitable bacterial host containing the thermolabile repressor CI renders the host cell capable, upon increasing the temperature of the host cell to a temperature at which the repressor is destroyed, of effecting expression of a desired gene inserted into the vector and production of polypeptide encoded by the gene. The vector is a double-stranded DNA molecule which includes in 5' to 3' order the following: a DNA sequence which contains the promoter and operator PLOL from lambda bacteriophage; the N utilization site for binding antiterminator N protein produced by the host cell; a DNA sequence which contains a ribosomal binding site for rendering the mRNA of the desired gene capable of binding to ribosomes within the host cell; an ATG initiation codon or a DNA sequence which is converted into an ATG initiation codon upon insertion of the desired gene into the vector; a restriction enzyme site for inserting the desired gene into the vector in phase with the ATG initiation codon; and additionally a DNA sequence which contains an origin of replication from a bacterial plasmid capable of autonomous replication in the host cell and a DNA sequence which contains a gene associated with a selectable or identifiable trait which is manifested when the vector is present in the host cell.

4831124

RECOMBINANT CDNA CONSTRUCTION METHOD AND HYBRID NUCLEOTIDES USEFUL IN CLONING

Gary V Paddock assigned to Research Corporation Technologies

Compounds useful as complementary DNA (cDNA) include deoxyribonucleotides and at least one ribonucleotide. They may be depicted by the general formula: *See Patent for Chemical Structure* wherein (dN)a and (dN)c represent series of deoxyribonucleotides and (rN)b represents a series of ribonucleotides; wherein a, b, and c are the number of nucleotides in the series, with the proviso that b is $>$ or $=1$, a is $>$ or $=35$, and c is $>$ or $=10$; wherein the series of deoxyribonucleotides (dN)a includes a series of deoxyribonucleotides which is substantially complementary to the series of deoxyribonucleotides (dN)c and the dashed line represents non-covalent bonding between the complementary deoxyribonucleotide series; and wherein the solid line represents a covalent phosphodiester bond. These compounds may be prepared from messenger RNA (mRNA) containing the genetic information necessary for cellular production of desired products such as polypeptides. After appropriate modification, they may be combined with DNA from a suitable cloning vehicle such as a plasmid and the resulting combined DNA used to transform bacterial cells. The transformed bacterial cells may then be grown and harvested; and the desired product or products recovered.