Me:

Hi Gemini, I have a list of 57 human-specific diseases. for each of these diseases, I need a description of the disease and its phenotypes, the difference between humans and other great apes in susceptibility to this disease, and any cell types in the human/ape bode that are involved in the disease and its control. for example, malaria is a disease that is caused by the plasmodium parasite, there are documented events of apes infected by the parasite but the species plasmodium falciparum is deadly to humans only. it involves hepatocytes, erythrocytes, endothelial cells and immune cells.

I need this kind of data, in detail, for all 57 diseases. please use only peer-reviewed academic sources (e.g. papers published in journals such as nature or other peer-reviewed journals), and cite the source of each piece of information in your final report.

the diseases are:

Cholera, Group B streptococcal infections, Hemophilus influenzae infections, Malignant malaria, Meningococcal meningitis, Mumps, Missing endemic transmissible retroviral infections (spumaviruses), Myocardial infarction, Typhoid fever, Interstitial myocardial fibrosis, Sexually transmitted bacterial diseases, Whooping cough (pertussis/diphtheria), Smallpox (variola), Alzheimer's disease, Carcinoma (epithelial cancers), Human-influenza A infections, Hepatitis B/C late complications, Muscular dystrophy severity, Neu5Ac-expressing bacterial pathogens, Bronchial asthma, Preeclampsia, Rapid progression of HIV infection to AIDS, Bipolar disorders, Hydatidiform molar pregnancy, Schizophrenia, Ovarian polycystic syndrome (PCOS), Premature labor and birth, Early fetal wastage, Female iron deficiency, Acne vulgaris, Chronic sinusitis, Colon diverticulosis, Endometriosis, Frailty (age-related), Gout, Inguinal hernia, Morning sickness, Osteoarthritis / Degenerative joint disease, Osteoporosis, Psoriasis, Rheumatoid arthritis, Skin wound healing, Sleep apnea, Spondyloarthropathy, Spinal column (no scoliosis), Tissue around rump, Varicella infections, Varicose veins, Volume loss with aging, Primary infertility, Hemorrhoids (dilated veins in anorectal region), Blood vessels aneurysms, Acute coronary thrombosis, Sudden Infant Death Syndrome, Obstetric and Prinatal Difficulties, Back Disorders, Air Sac Infections.

please let me know if any of the diseases in the list are duplicates of each other. also, please ask me any necessary questions before proceeding to the research.

Gemini:

I've put together a research plan. If you need to update it in any way, let me know.

Human Disease Comparative Analysis

Research Websites

Hi Gemini, I have a list of 57 human-specific diseases. for each of these diseases, I need a description of the disease and its phenotypes, the difference between humans and other great apes in susceptibility to this disease, and any cell types in the human/ape bode that are involved in the disease and its control. for example, malaria is a disease that is caused by the plasmodium parasite, there are documented events of apes infected by the parasite but the species plasmodium falciparum is deadly to humans only. it involves hepatocytes, erythrocytes, endothelial cells and immune cells. I need this kind of data, in detail, for all 57 diseases. please use only peer-reviewed academic sources (e.g. papers published in journals such as nature or other peer-reviewed journals), and cite the source of each piece of information in your final report. the diseases are: Cholera, Group B streptococcal infections, Hemophilus influenzae infections, Malignant malaria, Meningococcal meningitis, Mumps, Missing endemic transmissible retroviral infections (spumaviruses), Myocardial infarction, Typhoid fever, Interstitial myocardial fibrosis, Sexually transmitted bacterial diseases, Whooping cough (pertussis/diphtheria), Smallpox (variola), Alzheimer's disease, Carcinoma (epithelial cancers), Human-influenza A infections, Hepatitis B/C late complications, Muscular dystrophy severity, Neu5Ac-expressing bacterial pathogens, Bronchial asthma, Preeclampsia, Rapid progression of HIV infection to AIDS, Bipolar disorders, Hydatidiform molar pregnancy, Schizophrenia, Ovarian polycystic syndrome (PCOS), Premature labor and birth, Early fetal wastage, Female iron deficiency, Acne vulgaris, Chronic sinusitis, Colon diverticulosis, Endometriosis, Frailty (age-related), Gout, Inguinal hernia, Morning sickness, Osteoarthritis / Degenerative joint disease, Osteoporosis, Psoriasis, Rheumatoid arthritis, Skin wound healing, Sleep apnea, Spondyloarthropathy, Spinal column (no scoliosis), Tissue around rump, Varicella infections, Varicose veins, Volume loss with aging, Primary infertility, Hemorrhoids (dilated veins in anorectal region), Blood vessels aneurysms, Acute coronary thrombosis, Sudden Infant Death Syndrome, Obstetric and Prinatal Difficulties, Back Disorders, Air Sac Infections. please let me know if any of the diseases in the list are duplicates of each other. also, please ask me any necessary questions before proceeding to the research. (1) For each item in the provided list, conduct a targeted search on Google Scholar using the exact disease name to find relevant peer-reviewed academic articles. (2) For each identified disease, analyze the top relevant articles to extract a detailed description of the disease and its characteristic phenotypes in humans. (3) Within the searched articles, specifically look for information comparing the susceptibility of other great ape species (chimpanzees, gorillas, orangutans, bonobos) to the same disease. Document any noted differences in susceptibility or infection. (4) Identify and list the specific cell types in humans that are known to be involved in the pathogenesis, progression, and control of each disease, based on the information found in the academic sources. (5) If information is available, also identify and list any cell types in great apes that are involved in the disease or its control, noting any similarities or differences compared to humans. (6) For each piece of information extracted (description, phenotypes, ape susceptibility, involved cell types in humans and apes), meticulously record the citation details of the peer-reviewed academic source (journal name, article title, authors, publication year, and preferably a DOI or URL). (7) For items in the list that are not specific diseases (e.g., broad categories, symptoms, normal physiological processes), identify this and provide a brief explanation based on initial search results. (8) Review the initial search results for all items to identify any potential duplicates or closely related terms within the provided list.

Analyze Results

Create Report

**2nd round:**

Gemini plan:  
  
  
Query: Research the following 10 human-specific diseases: Meningococcal meningitis, myocardial infarction, epithelial cancers (carcinoma), influenza-A infections, hepatitis B and C late complications, muscular dystrophy severity, bronchial asthma, preeclampsia, bipolar disorders, and schizophrenia. For each disease, provide a description and its phenotypes, the difference in susceptibility between humans and other great apes, and the cell types involved in the disease and its control in both humans and apes. Use only peer-reviewed academic sources and cite each piece of information. (1) For each disease in the updated list, conduct targeted searches on Google Scholar using the disease name along with keywords like "description", "phenotypes", "great apes susceptibility", "cell types involved", and "comparative studies". (2) For each disease, carefully examine the top peer-reviewed academic articles (prioritizing publications in journals like Nature, Science, Cell, Lancet, NEJM, and other reputable journals in relevant fields). (3) Extract and synthesize information on the following aspects for each disease: (a) A comprehensive description of the disease and its characteristic phenotypes in humans. (b) Detailed information regarding the susceptibility of other great ape species (chimpanzees, gorillas, orangutans, bonobos) to the specific disease, explicitly noting any observed differences in susceptibility compared to humans. (c) Identification of the specific cell types within the human body that are known to be involved in the pathogenesis, progression, and control or immune response related to the disease. (d) If available in the literature, identify the specific cell types within the great ape body that are involved in the disease or its control, particularly in cases where susceptibility differs from humans. (4) Meticulously record the full citation (authors, year, journal, title, volume, pages, DOI if available) for each piece of information extracted from the peer-reviewed sources. (5) Organize the collected data for each disease under clear headings: "Disease Description and Phenotypes (Human)", "Susceptibility in Great Apes (Comparison to Humans)", "Cell Types Involved (Human)", "Cell Types Involved (Great Apes)", and "Source Citation(s)". (6) Compile all the researched information, organized by disease, into a final report, ensuring that every statement is directly supported by a citation to a peer-reviewed academic source.  
  
 (same prompt but I than changed the list of diseases)