

Laboratory/Research Skills for Science Resume

List of skills to assist with resumes, cover letters and interviews

Animal Care

- Handle and restrain
- Weigh animals
- Breed various species
- Clean cages
- Administer injections
- Prepare special diets
- Anesthetize
- Maintain and evaluate animal records
- Prepare for sterile surgical procedures
- Perform simple surgical procedures (such as adrenalectomy)
- Assist in sterile neurosurgical procedures
- Assist in emergency medical and surgical procedures
- Administer medication
- Implant tumors into small animals
- Perform animal autopsy
- Perform microsurgery
- Catheterize and infuse small animal arteries
- Collect blood or other samples

General Laboratory

- Pipette
- Weigh
- Sterilize
- Filtrate
- Titrate
- Wash/Clean glassware
- Prepare media
- Practice sterile techniques

Electron Microscopy

- Fix
- Embed
- Stain
- Section

Laboratory/Research Skills for Science Resume

- Process film
- Print film
- Operation of Electron Microscopy
- Prepare grids
- Form film on grids

Histology

- Routine frozen sections of whole animal brains
- Cell and fiber stains
- Perfusions of animals
- Staining processes
- Embedding processes: paraffin, celloidin
- Autoradiography of tissue sections

Immunology

- Plaque assay for antibody forming cells
- Hemagglutination and hemolysis assay
- Florescent antibody technique
- Lyophilization
- Spectrofluorometry
- Isolate viruses
- Cytotoxicity assay
- Lymphocyte culture

Bacteriology

- Maintain and purify: bacteria, phage stocks, cell culture
- Cell and Tissue culture
- Culture transfers
- Inoculation
- Prepare media
- Prepare and assay bacteriophage lysates
- Pour plates
- Plasmid amplification

Biochemistry/Genetics

- Purify and characterize enzymes
- Determinations: RNA, protein, nucleic acid, phosphate and others
- Gradients: density, equilibrium, etc.

Laboratory/Research Skills for Science Resume

- Assays: enzyme, infectivity, blood coagulation factors, and other (biochemical) assays
- Spectrophotometers: UV, infrared, atomic absorption
- Electrophoresis: immune, acrylamide gel, paper
- Chromatography: paper, thin layer
- Column: ion exchange resins, gel, gas liquid, HPLC
- Purify blood coagulations factors
- Immunoprecipitation techniques
- Analyze peptides
- Manipulate DNA
- Extract phenols from DNA
- Equilibrium sedimentation centrifugation
- Prepare antibodies
- Analyze lipids
- Synthesize peptides
- Mutagenesis
- Test for mutations
- Cell fractionation
- Transduction
- Conjugation
- Breed and maintain a population of drosophila, rodents or other species
- Prepare and identify mutants with mutagenic chemicals

Radio-biological

- Radioimmunoassays
- Handle radioisotopes
- Irradiate tumors in vivo
- Label radioactives
- Radioisotope counters: autogamma, scintillation, scanning, gas flow

Laboratory/Research Instruments

- Light microscope
- Autoanalyzer
- Micro Burette
- pH meter
- Centrifuges: standard, high speed
- Incubators

Laboratory/Research Skills for Science Resume

- Dark room equipment
- Precision balance
- Volumetric glassware
- Oscilloscopes
- Blood gas analyzer
- Microtomes: paraffin, celloidin
- X-ray equipment

Other Skills or Relevant Experience

- Data processing
- Laboratory
- Statistical analysis
- Programming skills
- Database skills
- Computer languages (HTML, C++, etc.)
- Light microscopy, fluorescence microscopy, and scanning electron microscopy
- Dissection
- Molecular (gene) cloning
- Mammalian cell culture
- Restriction analysis, gel electrophoresis, and gel documentation
- UV/Vis spectrophotometry
- Enzyme-linked immunosorbent assays (ELISA)
- Design, conduct and interpret scientific research
- Isolate and analyze DNA, RNA and protein
- Sequence genomes
- Conduct statistical analysis
- Apply a scientific approach to problems
- Communicate findings using models, charts and graphs
- Communicate new research findings to lay audiences
- Communicate biological research findings using scientific writing

Anatomy, Botany, and General Biology

- Use of a microtome to make slides
- staining techniques

Laboratory/Research Skills for Science Resume

Medical

- Patient sample handling techniques
- Making an accurate white blood cell count
- Antibody testing methods such as ELISA
- Loop Mediated Isothermal Amplification (LAMP)
- (This may also be appropriate under Microbiology)

Microbiology

- Use of micropipetter
- Molecular cloning
- Use of restriction enzymes
- Use of PCR (Polymerase Chain Reaction) machines
- Replica plating
- Growth of competent cells

Molecular Biology

- Agarose Gel Electrophoresis
- Cell fractionation
- Polyacrylamide Gel Electrophoresis
- Blotting techniques Ex: Western Blot