



Research Scientist

Bio-economy Skills Profile



Building skills for Canada's bio-economy

About BioTalent Canada

Helping Canada's Bio-economy thrive globally

Canada is a world leader in biotechnology—the application of living organisms to industrial, agricultural, medical and other processes and products. To maintain and build on this leadership, the sector needs highly trained, job-ready people.

By acting as a national hub and central resource for employers, job-seekers, students, educators and government agencies, BioTalent Canada helps make this happen.

The opinions and interpretations expressed in this publication are those of the author and do not necessarily reflect those of the Government of Canada.



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About the BioTalent Canada bio-economy skills profiles

Biotechnology's fusion of science and business creates unique requirements for occupations in the sector. Executives and managers must have technical expertise; technical staff often need entrepreneurial skill sets. Occupational descriptions from other sources do not always fit the bio-economy context. That's why, in partnership with industry stakeholders, BioTalent Canada has developed skills profiles specific to the bio-economy including this description of the role of research scientist.

Occupational Definition

A research scientist identifies potential research opportunities, plans and conducts experiments to increase the body of scientific knowledge and/or develops new, or improves existing, drugs, treatments or other science or medically related products. Research may be basic, such as investigating the underlying basis of health and disease, or it may be more applied such as medical devices, genetic research, conducting clinical research in support of clinical trials, investigating methods of prevention, diagnosis and treatment of human disorders. Research scientists also need to stay current with other research being carried out in, or related to, their field of study. This involves carrying out searches for information using the Internet and information databases, reading relevant scientific literature and journals and attending scientific meetings and conferences. Research scientists work for Canadian biotechnology companies of different sizes (i.e., small, medium, large) and in various biotechnology areas, such as:

- Agriculture
- Aquaculture
- Bioenergy
- Bioproducts
- Biosciences
- Environment
- Food Processing
- Forestry
- Genomics
- Human and Animal Health
- Industrial
- Life Sciences
- Medical Devices
- Nanotechnology
- Nutraceuticals
- Pharmaceuticals

Components of the skills profile

Every BioTalent Canada skills profile presents the areas of competence, tasks and sub-tasks associated with a specific occupation.

Area of competence (AC): This describes a major function or responsibility associated with the profession, trade or position.

Task: This is a specific, observable unit of work with definite start and end points. Tasks can be broken down into two or more steps and are generally performed in a limited period of time. Tasks and ACs are identified in behavioural terms, beginning with a verb that describes the applied behaviour.

Subtask: This is a distinct, observable activity that comprises the steps involved in a task.

Important Action/Performance Standard: This provides a criterion for assessing competence and may be used as a performance indicator.

Focus on competencies

The BioTalent Canada skills profiles are built around areas of competence because competencies are flexible, inclusive and linked directly to performance: they are the traits or qualities a professional must have to succeed in a given role within a given organization, and can be used for recruiting, professional development, curriculum planning and many other purposes.

How to use the profiles

The complete contents of this or any BioTalent Canada skills profile are unlikely to be used for any one position. Because they are comprehensive, they include every area of competence, task and subtask that could be required for a specific occupation. In reality, the definition of a given job will encompass a narrower subset of the profile. Hiring organizations must choose the elements of the profiles that are relevant to their businesses—and tailor those elements as necessary to more precisely describe their particular job requirements.

The profiles can be put to many uses:

- **Employers** can use them to develop job descriptions, performance evaluations, professional development, succession planning, team building, target skills needed, and recruitment plans.
- **Job seekers** can use them to tailor their resumes, prepare for interviews, see job descriptions and identify additional professional development needs.
- **Educators** can build industry-oriented curricula from the profiles to produce job-ready graduates.
- **Students** can enhance their understanding of employers' expectations and choose the right educational programs to equip themselves with the skills for success.

Scenario

The following illustrates how an employer might use the BioTalent Canada skills profiles to identify professional development priorities for his or her team.

Step 1

The employer would review the ACs for each occupation and identify which apply to the related positions within his or her company, omitting those that are not relevant.

Step 2

Under the selected ACs, the employer then notes which of the associated tasks, subtasks and important actions are relevant to that specific position within his or her business.

Step 3

Now with a complete, tailored profile, the employer can assess employee performance. Needs areas are easily identified and defined—to a significant depth of detail.

Step 4

Based on the needs analysis, the employer can either develop or seek out professional development programs that address employee needs areas.

Situational Analysis

Research scientists are trained professionals who design, conduct and analyze experiments to broaden scientific knowledge in general and/or for a specific end use. In the bio-economy, they conduct research involving a wide range of biological systems and processes, including how biologically relevant molecules are formed, structured and react. They use this knowledge to determine how these processes and molecules can be applied to produce new products or enhance existing products and how these products can be manufactured on a scale suitable for commercialization. They work as part of a scientific research team with a focus on the design, planning and conduct of controlled experiments to test and validate research hypotheses. They enjoy a wide variety of employment opportunities and are often found in industry, contract research organizations, regional or national government research centers, academic centers and institutions, regulatory agencies and public health agencies.

The role of the research scientist is dependent on the nature of the research they are conducting. They bring a sound understanding of their specialty or area of expertise to the research projects they undertake. Their research may explore new chemical formulations and processes and new technical applications for existing chemicals and compounds. They also help discover, develop and evaluate new products and/or define the synthesis and properties of chemical compounds and the mechanisms of chemical reactions. They work as part of a research team, interacting with other scientists, chemical engineers, non-scientific staff and management (e.g. in larger companies the research manager and research director; in smaller companies the chief executive officer). Many start-up biotechnology companies are led by research scientists who initially also act as chief executive officer.

Depending on the nature of the position, a research scientist may have team or staff and administrative responsibilities. These would typically include providing input for recruiting technicians and other members of their research team, managing their work assignments, monitoring performance and providing feedback and supporting individual career growth and development. As well, the research scientist ensures that standard protocols and practices are adopted and implemented in their team or organization (for example standard operating procedures for safety, compliance with Good Clinical and Good Laboratory practices). From time to time there may be a requirement to work with sub-contractors. Research scientists may be responsible for managing the working relationship with these parties, reviewing and reporting on performance and recommending/approving invoices for payment.

Research scientists are also concerned with disseminating the results of their work to others. They share research results with colleagues, prepare and deliver presentations at national and international scientific conferences, write and publish scientific papers in peer-reviewed medical and/or scientific journals. In private industry there is also often a lag period for any publications due to intellectual property issues.

A successful research scientist will be curious and adaptable, unafraid to explore new and unique ideas and approaches and comfortable changing direction and acting without complete information. They should enjoy working with others and be flexible team players, as they frequently work with a wide variety of professionals in technical, clinical, marketing, developmental design, and

executive positions. Well developed interpersonal and communication skills (both written and verbal) enable research scientists to interact effectively with clinicians, basic scientists, and other collaborators. They must be able to explain complex information in a clear and concise way that scientific and non-scientific individuals can understand, using both technical and business terminology. The ability to cope with change, solve problems and work through conflicts constructively helps them move their projects forward. On a personal level, attributes such as honesty, fairness and respect for team members, colleagues and others are desirable in a research scientist.

Research scientists typically hold an advanced degree such as a PhD in a scientific field, a DMV or an MD. Education/training in chemistry, physics, biology or biochemistry is usually completed before specializing in a scientific field of interest. Employers look to research scientists to have several years of relevant research experience in their area of specialty. Some will also require working knowledge of the industry and some experience working in industry. Post-doctoral research and 2–5 years work experience is usually required before employment in academic departments or research institutions.

Essential Skills

The most important Essential Skill(s) for this Profile: ✓				
Reading Text	✓	Thinking Skills – Problem Solving		Working With Others
Document Use		Thinking Skills – Decision Making		Computer Use
Writing	✓	Thinking Skills – Critical Thinking		Continuous Learning
Numeracy	✓	Thinking Skills – Job Task Planning & Organizing		
Oral Communication		Thinking Skills – Significant Use of Memory		
		Thinking Skills – Finding Information		

A research scientist needs well developed critical thinking, problem solving and job task planning skills to undertake a research project successfully. In smaller companies they will also need strong decision making skills while in larger companies many of the strategic decisions are made by the research manager or research director.

Language Benchmarks

The majority of communications tasks associated with the required competencies and activities of a competent research scientist were found to be between Canadian Language Benchmark levels 9 – 12. This finding is based on a limited sampling of representatives in industry. The actual language benchmark requirements for this occupation within an organization will be subject to the organization's requirements, and the definition of the occupational role within the organization.

Competency Profile

A Research Scientist must be able to:

A. Develop a research hypothesis

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Identify potential research areas appropriate to company goals and objectives	1.1. Understand and apply corporate strategic plan and company growth objectives.	
	1.2. Review research targets and objectives currently underway.	
	1.3. Conduct SWOT (strengths, weaknesses, opportunities, threats) analysis.	
	1.4. Assess gaps and opportunities.	
	1.5. Identify potential research areas.	
2. Analyze research trends and directions	2.1. Survey literature (both hard copy and web based materials).	
	2.2. Review secondary data .	
	2.3. Network with peers/colleagues.	
	2.4. Research competitors in terms of research activities, position in the research cycle.	
3. Develop a research hypothesis	3.1. Compile and organize information.	
	3.2. Analyze gathered data/information.	
	3.3. Develop a research hypothesis.	
	3.4. Document the research hypothesis.	
4. Assess hypothesis from a business perspective	4.1. Evaluate potential benefits of the hypothesis - to the company, to clients, to the scientific community where applicable.	
	4.2. Evaluate potential drawbacks or barriers related to the hypothesis - to the company, to clients, to the scientific community where applicable.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	4.3. Apply profit/loss considerations.	
	4.4. Assess potential of hypothesis for further development.	
	4.5. Seek approval for the research hypothesis.	

A Research Scientist must be able to:

B. Develop the research plan

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Develop a scientific research plan	1.1. Analyze research capacities.	
	1.2. Identify gaps.	
	1.3. Identify resources needed to implement the research plan.	
	1.4. Estimate requirements for materials, subcontractors, space, equipment etc.	
	1.5. Determine in-house versus external research options.	
	1.6. Identify changes required in current organization/structure.	
	1.7. Identify and assess risks.	
	1.8. Develop funding estimate for science related activities.	
	1.9. Provide input and/or prepare business case.	
	1.10. Seek approval for the scientific research plan.	
	1.11. Address objections/concerns.	
	1.12. Obtain executive team approval for the plan.	
2. Develop key performance indicators	2.1. Solicit input on key performance measures.	
	2.2. Develop potential performance measures.	
	2.3. Determine availability and retrievability of data/information needed to measure performance.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.4. Assess feasibility of potential performance measures in terms of data/information availability.	
	2.5. Identify supporting data and information requirements.	
	2.6. Obtain approval for key performance measures.	
	2.7. Develop standard report template for reporting purposes.	
	2.8. Develop standard reporting schedule.	
3. Develop a research plan for the initiative	3.1. State approved goals and objectives.	
	3.2. Outline timeline.	
	3.3. Define roles and responsibilities.	
	3.4. Develop the experimental design.	
	3.5. Identify experimental controls	
	3.6. Specify the protocols and test equipment/apparatus that will be required to support the experiment(s).	
	3.7. Identify outsourced resources (if necessary).	
	3.8. Circulate the draft research plan for review.	
	3.9. Address review findings.	
	3.10. Obtain Director/Executive team approval for the plan.	

A Research Scientist must be able to:

C. Execute the research plan

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Secure funding for the research plan	1.1. Identify internal funding sources.	
	1.2. Obtain Executive team commitment re: internal funding.	
	1.3. Identify external sources of funding.	
	1.4. Identify eligibility requirements for external sources of funding.	
	1.5. Assess eligibility qualifications for external sources of funding.	
	1.6. Prepare submissions for external funding.	
	1.7. Obtain Director/Executive team approval for the funding submissions.	
	1.8. Submit approved submissions to appropriate funding sources.	
	1.9. Prepare contingency plans in event submissions denied or approvals delayed.	
2. Organize to support the research plan	2.1. Identify work/activities to be completed.	
	2.2. Estimate level of work.	
	2.3. Determine quality, level of resources and equipment needed to do the work.	
	2.4. Arrange for third party resources as needed.	
	2.5. Staff vacant/open positions.	
3. Complete the research	3.1. Direct/oversee the conduct of experiments.	
	3.2. Ensure application of the scientific method.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Plan, coordinate and supervise the duties of technical staff.	
	3.4. Provide appropriate direction (quality, scope and depth) to technicians, assistants etc.	
	3.5. Gather and maintain accurate records of work undertaken.	
	3.6. Use computers, high technology measuring systems and other sophisticated equipment to collect experimental data.	
	3.7. Make and record detailed observations.	
	3.8. Follow established scientific protocols.	
	3.9. Follow established laboratory safety practices.	
	3.10. Ensure the application of techniques appropriate to the field of study e.g., histology, biochemistry, pathology, pharmacology.	
	3.11. Ensure regulatory compliance with local, national and international regulations.	
4. Analyze data and interpret results.	4.1. Use specialized computer software to analyze data and to produce diagrammatic representation of results.	
	4.2. Apply the experimental model.	
	4.3. Evaluate the experimental design and update if required.	
	4.4. Confirm validity of experimental design.	
	4.5. Redesign and re-run experiment based on results of validation.	
	4.6. Confirm achievement of expected results.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	4.7. Revisit original research hypothesis based on actual experimental results.	
	4.8. Evaluate need for further experimentation based on original research results.	
5. Report findings	5.1. Prepare reports on research results for the Research Manager/Director.	
	5.2. Determine scope of dissemination of research findings in line with company guidelines, intellectual property designation and protection of sensitive and confidential information.	
	5.3. Share results and findings with colleagues and team members in group meetings.	
	5.4. Produce written reports for clients such as contract research organizations or funding organizations.	
	5.5. Submit reports to clients/funding bodies.	

A Research Scientist must be able to:

D. Manage research activities

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Manage issues and risks on a proactive basis	1.1. Identify emerging issues and risks.	
	1.2. Quantify the impacts of each risk/issue - financial, scientific, operational.	
	1.3. Determine probability of occurrence for risk/issue.	
	1.4. Assess impact of potential risk/issue to the research plan and objectives.	
	1.5. Develop mitigation strategies and plans for each emerging risk/issue.	
	1.6. Obtain approval for the developed mitigation strategies.	
	1.7. Monitor emerging risks/issues.	
	1.8 Advise on determination of go/no go decision.	
2. Evaluate performance to research plan	2.1. Evaluate progress and performance to established performance indicators.	
	2.2. Identify gaps.	
	2.3. Assess impact of gaps on research plan and objectives.	
	2.4. Manage expectations of Director/Executive team.	
	2.5. Identify appropriate corrective actions.	
	2.6. Communicate performance and results to the Research Manager/Director.	
	2.7. Obtain approval(s) for proposed corrective actions (if needed) or research plan updates.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.8. Implement approved corrective actions.	
	2.9. Update plan(s) as per approvals.	
	2.10. Communicate updates to plan(s) and expected outcome of any planned corrective actions.	

A Research Scientist must be able to:

E. Advance the research agenda

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Assess research outcomes	1.1. Evaluate research outcomes objectively.	
	1.2. Conduct due diligence.	
	1.3. Evaluate potential for continued development/ commercialization.	
	1.4. Complete a feasibility review.	
	1.5. Seek internal and external input.	
	1.6. Prepare recommendations and report on moving research outcomes forward in the development process.	
2. Contribute to the registration dossier	2.1. Understand registration requirements (both local and international requirements).	
	2.2. Understand dossier content.	
	2.3. Prepare documents required for registration.	
	2.4. Complete administrative documents.	
	2.5. Submit dossier documents for approval	
	2.6. Protect supporting research results, notes, workbooks, records and data in keeping with corporate guidelines and policies on sensitive/confidential information.	
3. Identify and protect intellectual property	3.1. Understand corporate policies, guidelines and procedures pertaining to intellectual property.	
	3.2. Identify work considered to be intellectual property.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Determine whether developments are able to be protected.	
	3.4. Contribute to the development of actions to protect intellectual property.	
	3.5. Participate in steps as necessary to ensure protection of intellectual property.	
4. Present results to the scientific community	4.1. Respect corporate guidelines re: intellectual property and sensitive business information.	
	4.2. Share results and findings with colleagues and key opinion leaders (KOL) in group meetings.	
	4.3. Write original papers outlining research and results.	
	4.4. Publish in reputable scientific journals.	
	4.5. Present findings at scientific/medical conferences.	

A Research Scientist must be able to:

F. Demonstrate accepted management capabilities

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Apply accepted management principles and techniques	1.1. Align management and leadership values with the corporate culture and objectives.	
	1.2. Create opportunities for information sharing across the research team e.g. meetings, brainstorming.	
	1.3. Make sure the procedures and processes are in place to achieve research goals.	
	1.4. Establish the appropriate framework for evaluating performance and progress to plan.	
	1.5. Monitor and measure progress and performance.	
	1.6. Establish reporting schedule and distribution listing for regular reporting.	
	1.7. Keep research team informed of progress and performance	
	1.8. Provide coaching, mentoring and training to staff as required.	
2. Comply with all applicable regulations and legislation	2.1. Know and understand applicable rules, regulations and legislation.	Ontario Safety and Health Act (OSHA), Health Canada, International Organization for Standardization (ISO) requirements, Workplace Hazard Management Information System (WHMIS), Liquor Control Board of Ontario (LCBO) (ethanol) Material Safety Data Sheets (MSDS)

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.2. Review relevant literature.	
	2.3. Analyze prevailing legislation/regulations and capture parameters/controls relevant and/or applicable to the research programs.	
	2.4. Make a documented record of these requirements.	
	2.5. Work within regulatory framework.	
	2.6. Identify situations that do not align with the regulatory framework.	
	2.7. Determine appropriate corrective action(s).	
	2.8. Determine impact of the conformance to the regulatory framework and the impact on the research plan and objectives.	
	2.9. Report identified situations on non-conformance, estimated impact and proposed corrective actions.	
	2.10. Implement approved corrective actions.	
	2.11. Update research plan(s) if necessary.	
3. Develop and report against budgets and forecasts	3.1. Access necessary information for budgeting and forecasting.	
	3.2. Assess performance against budget parameters/targets.	
	3.3. Identify variances in actual vs. planned budget and funding.	
	3.4. Assess impact of variances on research plan and objectives.	
	3.5. Prepare reports for external funding sources.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.6. Prepare reports for the Research Manager/Director.	
4. Manage research timelines against established expectations	4.1. Understand expectations and set milestones accordingly.	
	4.2. Revisit and revise timelines, as required.	
	4.3. Report on performance to timeline/milestones.	
5. Delegate	5.1. Know strengths and weaknesses of team members.	
	5.2. Set expectations.	
	5.3. Give autonomy.	
	5.4. Allow for personal growth opportunities.	
	5.5. Communicate frequently and regularly.	
6. Manage risk	6.1. Identify, qualify and quantify risks.	
	6.2. Identify the risk/benefit/cost proposition.	
	6.3. Develop contingency/remedial plans to mitigate risk.	
	6.4. Communicate risks.	
	6.5. Provide recommendations on 'Go/No Go' decisions.	

A Research Scientist must be able to:

G. Supervise research team members

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Recruit team members	1.1. Develop and maintain job descriptions.	
	1.2. Post jobs.	
	1.3. Interview candidates.	
	1.4. Hire personnel.	
	1.5. Orient new personnel.	
	1.6. Provide task specific initial training.	
2. Assign work and responsibilities	2.1. Assign work and responsibilities appropriately (level, background/experience, expertise).	
	2.2. Provide instruction as to what is to be done, approach to be used, procedures/guidelines that are applicable to the work to be done.	
	2.3. Define expectations of team members in terms of work quality and outcomes, in line with job descriptions and corporate guidelines.	
	2.4. Communicate expectations regarding work quality and outcomes to team members.	
	2.5. Recognize work efforts that meet or exceed expected results.	
	2.6. Address situations where work quality, outcomes and assumption of responsibilities do not meet expectations.	
3. Identify team member development needs	3.1. Monitor performance.	
	3.2. Identify weaknesses and strengths.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Explore team member expectations and interests regarding development options.	
	3.4. Support team member development goals and objectives.	
	3.5. Follow up on progress, improvement and achievements.	
4. Evaluate team member performance	4.1. Utilize a standard review process, as prescribed by company policies and guidelines.	
	4.2. Obtain education on reviewing team member performance, if necessary.	
	4.3. Assess performance to key performance criteria (actions and objectives agreed upon during prior discussions of performance).	
	4.4. Solicit team member perspective on performance relative to agreed upon actions and objectives.	
	4.5. Review performance assessment with the team member.	
	4.6. Discuss and explore points of difference, and achieve consensus on actions and objectives moving forward.	
	4.7. Create a record of the performance assessment and agreed upon plan of action.	
	4.8. Obtain team member sign off on the performance assessment record.	
5. Address other human resource (HR) responsibilities	5.1. Maintain personnel files.	
	5.2. Counsel personnel.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	5.3. Facilitate the identification and resolution of contentious HR issues through appropriate channels.	
	5.4. Investigate workplace complaints, infractions or incidents as appropriate.	
	5.5. Discipline personnel as required.	
	5.6. Dismiss personnel as required.	

A Research Scientist must be able to:

H. Manage operations of the research laboratory

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Obtain appropriate licenses	1.1. Contact relevant agencies.	
	1.2. Determine requirements.	
	1.3. Determine annual usage of licensed equipment or chemicals.	
	1.4. Apply for license.	
	1.5. Maintain licensing records.	
	1.6. Renew licenses appropriately.	
2. Secure appropriate service contracts	2.1. Establish requirements.	
	2.2. Undertake procurement activity as required.	
	2.3. Ensure contract reflects lab requirements.	
	2.4. Ensure established schedule is adhered to	
	2.5 Provide feedback on downtime.	
3. Determine purchasing procedures	3.1. Validate efficacy of existing purchasing procedures.	
	3.2. Select supplier based on prior experience and feedback.	
	3.3. Finalize purchase arrangement.	
	3.4. Document receipt in appropriate logs.	
4. Ensure proper training and usage of equipment	4.1. Calibrate all equipment as per schedule or regulatory requirements.	
	4.2. Log all out of calibration events.	
	4.3. Address non-compliance issues.	
	4.4. Provide appropriate training for equipment.	
	4.5. Establish standard operating procedures (SOPs) for use and maintenance of equipment.	
	4.6. Ensure optimal performance of equipment.	

A Research Scientist must be able to:

I. Manage subcontractor relationships

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Monitor subcontractor performance	1.1. Establish reporting schedule and template.	
	1.2. Review subcontractor reports and assess quality of services/products delivered.	
	1.3. Review subcontractor performance to contractual requirements/performance indicators.	
	1.4. Discuss areas requiring corrective action with the subcontractor.	
	1.5. Agree on course of corrective actions and expected results.	
	1.6. Monitor effectiveness of correction actions and note changes in quality of sub-contractor products/services.	
2. Administer contracts	2.1. Review delivered products/services to contract requirements.	
	2.2. Review invoice for accuracy and completeness to business requirements.	
	2.3. Identify and investigate discrepancies between actual and invoiced products and services.	
	2.4. Resolve any discrepancies with the vendor.	
	2.5. Recommend payment of invoices.	
3. Report on subcontractor performance	3.1. Prepare a report on subcontractor performance to contract requirements.	
	3.2. Outline impact of subcontractor performance on overall research plan and objectives.	
	3.3. Develop options appropriate to subcontractor compliance and impact on research plan.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.4. Present key findings to the Research Manager/Director.	
	3.5. Obtain approval for planned actions.	
	3.6. Work with the subcontractor to execute planned actions as appropriate.	

A Research Scientist must be able to:

J. Manage relationship(s) with other stakeholders

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Establish internal stakeholder relationships/networks	1.1. Identify internal stakeholder groups (Other dept, committees, research programs or lines of business).	
	1.2. Identify and establish relationship with key contacts within stakeholder groups.	
	1.3. Develop an understanding of each internal stakeholder's priorities, interests, concerns, issues and positions.	
	1.4. Establish protocols/framework for information exchange/interactions with and between internal stakeholders.	
	1.5. Draw on the stakeholder network to solicit insights and information regarding organizational culture, priorities, decisions; support the requirements of the on-going registration process and to review and provide feedback on plans, research findings and reports.	
2. Establish external stakeholder relationships/networks	2.1. Identify external stakeholders (Researchers in other organizations, regulatory bodies, clients, associations, lobbyists, politicians etc.).	
	2.2. Identify and establish relationship with key contacts within stakeholder group.	
	2.3. Develop an understanding of the various stakeholder priorities, interests, concerns, issues and positions.	
	2.4. Understand the corporate position relative to each stakeholder group.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.5. Establish protocols/framework for information exchange/interactions between stakeholder group.	
	2.6. Use the stakeholder network to solicit insights and information, to share knowledge and expertise, to stay current with key activities ongoing in the relevant field of expertise.	
3. Maintain networks/relationships with stakeholders	3.1. Attend and contribute at meetings.	
	3.2. Participate in professional associations.	
	3.3. Attend and socialize at professional conferences/workshops/seminars.	

A Research Scientist must be able to:

K. Provide expert/advisory services

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Serve as an in-house consultant	1.1. Maintain networks with other experts in the appropriate field.	
	1.2. Stay current with pertinent legislation and regulations.	
	1.3. Share 'lessons learned' (both positive and negative) from past pre-clinical studies and clinical/field trials.	
	1.4. Communicate leading practices in working to Good Clinical Practice (GCP) requirements.	
	1.5. Update knowledge and understanding by reading scientific/medical journals and attending professional conferences.	
	1.6. Contribute experience and knowledge to the development of research plans.	
	1.7. Use knowledge gained in the development of internal standards and operating protocols (SOP's).	
	1.8. Participate in industrial route realization, including empirical route evaluation, process development and technology transfer.	
	1.9. Utilize information from h academia and apply the results of research to develop new techniques, products or practices.	
2. Demonstrate scientific/medical expertise	2.1. Act in accordance with the ethics and standards of the medical profession.	
	2.2. Demonstrate sound, evidence-based judgment.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.3. Speak at scientific, medical and regulatory conferences and seminars.	
	2.4. Sit on scientific/medical professional association committees pertinent to area of expertise.	
	2.5. Publish scientific research in credible professional journals.	
	2.6. Teach university science/medical courses where applicable.	
3. Maintain and enhance knowledge and understanding of scientific research	3.1. Undertakes frequent and regular review of and ensures familiarity with scientific/clinical literature.	
	3.2. Maintains awareness of developments in the field of clinical research as needed.	
	3.3. Reviews regulatory documents as required.	
	3.4. Participates in training programs.	
	3.5. Participates in available programs to enhance personal professional proficiency, e.g., sector/industry associations, conferences, professional networks, etc.	
	3.6. Keeps up-to-date on clinical trial regulations and innovations.	
4. Mentor and coach peers and the management team	4.1. Discuss opportunities for growth with peers/team members.	
	4.2. Share expert knowledge and experience.	
	4.3. Explore avenues available for peers/team member growth.	
	4.4. Provide guidance and support.	
	4.5. Provide contacts and open networks.	
	4.6. Offer positive reinforcement and recognition.	
5. Assume the role as the 'scientific face' of the organization	5.1. Make presentations at scientific/medical conferences on behalf of the organization.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	5.2. Make media appearances as a spokesperson of the company on corporate research.	
	5.3. Act as point of contact on company website	
	5.4. Speak at meetings.	
	5.5. Liaise with regulatory bodies on behalf of the organization.	
	5.6. Provide advice and guidance on product use to clients/external users (e.g. other research organizations, academia).	

A Research Scientist must be able to:

L. Demonstrate personal competencies

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Demonstrate leadership	1.1. Focus on goals and objectives.	
	1.2. Demonstrate commitment.	
	1.3. Promote and demonstrate ethical behaviour and integrity.	
	1.4. Demonstrate balanced judgment.	
	1.5. Show and promote mutual respect.	
	1.6. Promote trust and honesty.	
	1.7. Accept accountability.	
	1.8. Align management expectations with achievable results.	
2. Demonstrate personal integrity	2.1. Respect applicable internationally accepted protocols and practices, regulations, and legislation.	
	2.2. Follow rules and regulations administered by regulatory bodies, such as Health Canada, Agriculture and Agri-Food Canada	
	2.3. Maintain confidentiality (e.g., data, records, intellectual property, client information).	
	2.4. Act honestly.	
	2.5. Demonstrate openness and transparency.	
3. Manage data and information	3.1. Identify data and information requirements.	
	3.2. Establish a formal system for data/information collection, storage, access, retrieval, archiving and disposition.	
	3.3. Use computers to collect, analyze and interpret complex data.	
4. Demonstrate critical	4.1. Identify the problem.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
thinking/problem solving	4.2. Apply logical and methodical approach to identify and assess the cause(s) of the problem.	
	4.3. Develop and assess options to address the problem.	
	4.4. Apply knowledge, training and creativity to determine the appropriate course of action.	
	4.5. Oversee implementation of the selected course of action.	
	4.6. Evaluate the effectiveness of the selected course of action.	
5. Set priorities	5.1. Reference critical information when setting priorities.	
	5.2. Establish criteria such as risk, time-sensitivity, investment required, etc. to facilitate priority setting.	
	5.3. Consider available resources and redistribute work/assignments, as appropriate.	
	5.4. Maintain awareness of time-sensitive issues and critical deadlines.	
	5.5. Keep goals and objectives in mind.	
	5.6. Multi-task where possible and practical.	
	5.7. Communicate priorities to team members/relevant personnel.	
6. Build networks internally and externally	6.1. Communicate well, clearly, and in a timely manner.	
	6.2. Listen.	
	6.3. Ensure awareness of differences, treat everyone fairly/equitably and accommodate to special need.	
	6.4. Recognize the skills and abilities of others.	
	6.5. Use various approaches in response to different individual styles.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
7. Communicate well and clearly	7.1. Demonstrate above average communication skills (written and oral).	
	7.2. Use appropriate terminology.	
	7.3. Understand nuances.	
	7.4. Express complex concepts clearly.	
	7.5. Translate, simplify, and explain terms when speaking not only with parties who understand clinical trial/scientific terminology, but also those who may not (layman's terms).	
8. Embrace continuous learning	8.1. Allocate time for continuous learning.	
	8.2. Identify opportunities for continuous learning.	
	8.3. Build on 'lessons learned' from past research efforts.	
	8.4. Keep abreast of relevant science and technology.	
	8.5. Nurture the ability and enthusiasm to learn new skills and techniques.	

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