
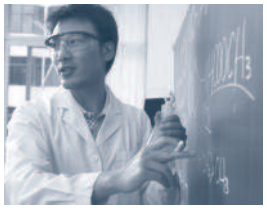


Vice President Research & Development

Bio-economy Skills Profile

BioTalent™ Canada

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.

BioTalent™ Canada

Building skills for Canada's bio-economy

Canada This project is funded by the Government of Canada's Foreign Credential Recognition Program

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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 don't 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 vice president, research and development.

Occupational Definition

The vice president, research and development (R&D) is a key member of the senior management team who has special, in-depth knowledge of the subject of interest and is well versed in the requirements of national and international regulatory processes. The key function of a vice president, R&D is to oversee all research and development efforts, drive innovation, and direct all aspects of research, technical support, and transfers to commercial development. This role provides leadership and expertise to scientific and operational staff and management involved in the planning, conduct and completion of research, pre-clinical studies, clinical trials and field trials. Within their organization a vice president, R&D works closely with cross-functional teams to establish product specifications, resource planning, manufacturing scale-up, process adherence and improvement, and the development of intellectual property (IP) strategies. They provide insight and direction to senior management regarding scope and focus of the research agenda, and bring a scientific and/or medical perspective to strategic plans, business case options, briefings, position papers, policy drafts, project directives and implementation plans. The role also requires effective collaboration with external stakeholders such as universities, research institutes, professional bodies and representatives from the scientific, commercial and investment areas.

Vice presidents of research and development work for Canadian biotechnology companies of different sizes (i.e., small, medium, large) and in various biotechnology areas, such as:

- Agriculture
- Aquaculture
- Bioenergy
- Bioinformatics
- Bioproducts
- Biosciences
- Environment
- Food Processing
- Forestry
- Genomics
- Human and Animal Health
- Industrial
- Life Sciences
- Medical Devices
- Natural Resources
- 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

The vice president of research and development (VP R&D) is responsible for all aspects of the R&D functions in a biotechnology company. They develop, direct and implement strategic R&D plans, policies and procedures that align with their organization's vision, mission, values, and business/scientific direction. They provide leadership to R&D teams and work closely with personnel from other departments, such as regulatory affairs, intellectual property, manufacturing, quality control, and quality assurance. They promote compliance with legislative and regulatory requirements, health and safety regulations and international standards.

Within their organization, the VP R&D interacts with executive and senior management, scientists and non-scientists alike. They work with cross-functional teams to address risk management, resource planning, design control, product development, life cycle management and the development of intellectual property (IP) strategies. They also interact and collaborate with external stakeholders such as universities, research institutes, professional bodies and representatives from the scientific, commercial and investment areas. VPs R&D frequently represent their organization, or delegate representatives to act on behalf of the organization, in negotiations or other official functions.

In addition to research and development and human resource responsibilities, VPs R&D also have financial responsibilities. They monitor budgets and manage diverse resources to meet financial targets. They exert and maintain budgetary control for the R&D operations and expenditures. They monitor costs and oversee R&D reporting to meet established financial targets. VPs R&D may also manage costs by optimizing the use of internal and external R&D capabilities. They provide direction for outsourcing, including vendor selection, contract negotiation, technology transfer, and process troubleshooting. From a business perspective, VPs R&D need effective planning and organizational skills, the ability to adapt and respond to changing and evolving challenges and priorities, and must be comfortable working in a demanding, fast-paced environment. They frequently exercise well-developed decision-making and risk assessment capabilities while taking a flexible and open-minded approach to their work.

Appointment to the position of VP R&D is usually based on a combined background of sound, scientific academics and extensive research, business and management experience. VPs R&D usually hold graduate level degrees (commonly doctorates) and typically bring 15+ years experience to their positions including proven commercialization experience, and significant working knowledge of legislative or regulatory guidelines and public policy statutes of direct relevance to the organization's research focus. An on-going responsibility for the VP R&D is to stay current with developments and emerging trends in the marketplace, the scientific field of study, and the international arena. Employers look to the VP R&D to introduce new technology and products into its research agenda. They are also expected to lead their organizations in updating their knowledge and skills and in staying current with industry trends. This means a VP R&D is continuously learning, through reading scientific journals, scanning the Internet, taking professional seminars and networking with peers, colleagues and trusted knowledge leaders.

A VP R&D should be responsible, driven and visionary individual that builds and promotes a positive and productive R&D environment. They must have excellent listening, verbal and written communication skills, as they collaborate, consult and communicate with a broad spectrum of individuals; scientists, staff, management, regulators and investors. In addition, they must demonstrate good time and resource management capabilities; able to identify/set priorities and manage multiple tasks. They must be able to work in a team and partner effectively with internal and external stakeholders to identify and meet objectives. It is also important that a VP R&D demonstrates positive interpersonal skills – in working closely and effectively with others, in persuading and influencing decisions, and for developing support for research proposals and positions. They apply critical thinking and problem-solving skills to identify priorities as well as to assess and manage risk and seek out potential opportunities which embody the goals and mandates of the organization.

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 VP R&D needs strong Critical Thinking skills as well as well developed Oral Communication skills and ability to Work With Others in order to plan and manage a successful R&D program.

Language Benchmarks

The majority of communications tasks associated with the required competencies and activities of a competent vice president, research and development 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 Vice President, Research and Development must be able to:

A. Develop research and development (R&D) strategy

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Analyze research and development (R&D) trends and directions	1.1. Survey literature (both hard copy and web based materials).	
	1.2. Network with peers/colleagues.	
	1.3. Research competitors in terms of research activities, position in the research cycle.	
2. Assess in-house technology	2.1. Review current intellectual property (IP) position for each technology.	
	2.2. Review position in pipeline/development status.	
	2.3. Assessment of risk/failure.	
	2.4. Identify gaps or potential areas for technology in sourcing/acquisition.	
	2.5. Review technologies that meet gaps.	
3. Assess external technology	3.1. Review current IP position for each technology.	
	3.2. Review position in pipeline/development status.	
	3.3. Assessment of risk/failure	
	3.4. Identify gaps or potential areas for technology in sourcing/acquisition	
	3.5. Review technologies that meet gaps.	
4. Assess and prioritize potential technologies	4.1. Complete strengths, weaknesses, opportunities and threats (SWOT) analysis/financial assessment/target product profiles.	
	4.2. Resource requirements.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
5. Assess in-house research and development (R&D) capacity	5.1. Analyze in-house research and development (R&D) capabilities.	
	5.2. Identify gaps.	
	5.3. Develop options to address gaps.	
	5.4. Evaluate options.	
	5.5. Determine requirement for outsourced research and development (R&D) capabilities.	
6. Analyze outsourcing research and development (R&D) opportunities	6.1. Screen other R&D facilities and suppliers.	
	6.2. Consider scientific implications.	
	6.3. Complete a cost comparison.	
	6.4. Evaluate impact of outsourcing on organization.	
	6.5. Conduct cost-benefit analysis.	
7. Lead development of contingency plans	7.1. Develop mitigating strategies for identified risks.	
	7.2. Identify a "Plan B" (back-up plan).	
	7.3. Identify backup sites.	
	7.4. Identify backup resources.	
	7.5. Identify backup vendors.	
	7.6. Determine costing process for contingency plans.	
	7.7. Seek to mitigate potential risks.	
8. Develop long-term plan in line with company objectives	8.1. Consolidate and review assessment/analysis findings.	
	8.2. Identify potential research and development R&D options.	
	8.3. Evaluate potential benefits, drawbacks, risks and barriers of each option.	
	8.4. Identify how options impact technology portfolio.	
	8.5. Apply profit/loss considerations.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	8.6. Identify the option that offers the optimal opportunity and supports company objectives.	
	8.7. Develop a research and development (R&D) business plan for the optimal option.	
9. Conduct scientifically sound risk assessment	9.1. Identify types of risk.	
	9.2. Quantify the financial impact of each risk.	
	9.3. Determine probability of occurrence for each risk.	
	9.4. Evaluate the social impact of the risks For example, impacts to communities, families, stakeholders	
	9.5. Evaluate the environmental impact.	
	9.6. Evaluate trade-off between cost of preventing risk and probability of risk occurring.	
	9.7. Evaluate impact.	
	9.8. Develop recommendations on risk	
10. Develop research and development (R&D) capital budget	10.1. Identify resources needed to implement the research plan.	
	10.2. Estimate requirements for materials, subcontractors, space, equipment etc.	
	10.3. Make decisions whether to buy/lease/outsource equipment and research and development (R&D) capacity.	
	10.4 Identify and source vendors or suppliers.	
	10.5 Determine whether capital can be raised in consultation with Finance.	
	10.6 Define timing.	
11. Advocate for the proposed research and development (R&D) strategy	11.1. Obtain support for moving forward with the proposed strategy.	
	11.2. Develop the business case for the strategy.	
	11.3. Present the strategy to Executive team.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	11.4. Address concerns or issues.	
	11.5. Obtain support to present the proposed strategy to the Board of Directors.	
	11.6. Present the proposed strategy to the Board of Directors.	
	11.7. Socialize the proposed research and development (R&D) strategy.	

A Vice President, Research and Development must be able to:

B. Implement the research and development (R&D) strategy

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Organize to support the research plan	1.1. Define organizational chart.	
	1.2. Analyze resource requirements based on approved budgets.	
	1.3. Determine quality and level of resources needed to do the work.	
	1.4. Identify key jobs and core competencies.	
	1.5. Outsource non-core competencies, as required.	
2. Develop research and development (R&D) operational plan	2.1. State approved goals and objectives.	
	2.2. Outline timeline-define firm timelines.	
	2.3. Define roles and responsibilities.	
	2.4. Define research and development (R&D) controls.	
	2.5. Specify the protocols that will be applied throughout the research and development (R&D) effort.	
	2.6. Benchmark current status.	
	2.7. Finalize budget(s) .	
	2.8. Define research and development (R&D) operational plan for strategy implementation.	
	2.9. Seek approval from Executive team for plan.	
	2.10. Formalize acceptance of communications plan.	
3. Communicate operational plan	3.1. Synthesize information.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.2. Develop communication plan.	
	3.3. Break the plan down into sub-functional plans.	
	3.4. Communicate plan.	
4. Secure human resources	4.1. Define requirements.	
	4.2. Liaise with Human Resources (HR).	
	4.3. Align resource requirements with sub functions.	
	4.4. Participate in interviewing and hiring process.	
5. Secure financial resources	5.1. Identify external sources of funding.	
	5.2. Determine availability of funding sources/speak with Chief Finance Officer about options.	
	5.3. Identify eligibility requirements of the various sources of funding.	
	5.4. Assess qualifications against eligibility requirements.	
	5.5. Prepare submissions for funding.	
	5.6. Prepare contingency plans in event submissions denied or approvals delayed.	
	5.7.Secure Executive management approval for funding submissions	
	5.8. Submit submission packages to appropriate sources of research funds.	
6. Align key performance indicators (KPIs)	6.1. Solicit input on key performance measures.	
	6.2. Align input with key corporate goals.	
	6.3. Define implications of key performance indicator (KPI) non-compliance.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	6.4. Develop potential performance measures.	
	6.5. Determine availability and retrievability of data/information needed to measure performance.	
	6.6. Assess feasibility of potential performance measures in terms of data/information availability.	
	6.7. Identify supporting data and information requirements.	
	6.8. Validate the recommended performance measures.	
	6.9. Obtain approval for key performance measures.	
	6.10. Develop standard report template for reporting purposes.	
	6.11. Develop standard reporting schedule.	
7. Lead strategy implementation	7.1. Allocate research and development effort across different business units, business lines or research teams, as appropriate.	
	7.2. Establish/plan initiation meeting to formalize buy-in.	
	7.3. Oversee development of sub-plans for all allocated research and development (R&D) efforts.	
	7.4. Align sub-plans with overarching plan.	
	7.5. Apply project management skills.	
	7.6. Set and monitor reporting criteria.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	7.7. Ensure that research and development (R&D) managers understand and support the strategy.	
	7.8. Communicate progress internally to team.	
8. Evaluate progress and performance	8.1. Analyze data, variances and deviations.	
	8.2. Set parameters for tracking to established benchmarks.	
	8.3. Assess impact of reported progress to plan.	
	8.4. Align and adjust or re-evaluate, as appropriate.	
	8.5. Review efficacy of complete process.	
	8.6. Formulate recommendations where 'Go/No Go' decisions are to be made.	
9. Report to Executive team	9.1. Prepare report and supporting documentation.	
	9.2. Present progress reports, achievements, and going forward options, if required.	
	9.3. Propose optimization possibilities.	
	9.4. Pursue approved corrective actions, if required.	

A Vice President, Research and Development must be able to:

C. Oversee implementation of the research and development (R&D) operational plan

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Review progress regularly	1.1. Review research and development (R&D) sub-plan progress reports.	
	1.2. Integrate reported progress with overall research and development (R&D) operational plan.	
	1.3. Analyze deviations from research and development (R&D) plan/budget.	
	1.4. Assess impact of deviations.	
	1.5. Determine action plan to manage deviations, if required.	
	1.6.Identify any conditions that might jeopardize progress or research outcomes.	
	1.7. Consult with the Executive team, as required.	
	1.8. Implement modifications to research and development (R&D) plans, as appropriate.	
2. Ensure compliance with established procedures and protocols	2.1 Review trends.	
	2.2 Identify scale and risk of non-conformance.	
	2.3 Set action plans for non-conformity.	
	2.4 Measure impact on business performance.	
	2.5 Identify key risk areas.	
	2.6 Keep abreast with latest changes and regulation updates.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
3. Monitor key performance indicators (KPIs)	3.1. Set up forums to review key performance indicators (KPIs).	
	3.2. Determine and review corrective action plans.	
	3.3. Carry out effectiveness check.	
	3.4. Measure impact on business plan.	
	3.5. Compare actual with expected key performance indicators (KPIs).	
	3.6. Benchmark with industry standard.	
4. Assess the impact of unexpected results on the research and development (R&D) plan	4.1. Determine type and scale of deviations.	
	4.2. Analyze impact on operational plan and resource utilization.	
	4.3. Develop and review corrective action plan.	
	4.4. Identify possible solutions.	
	4.5. Implement approved corrective actions, as necessary.	

A Vice President, Research and Development must be able to:

D. Advance the research agenda

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Maintain a high level of involvement with research and development (R&D) progress	1.1. Champion the research and development (R&D) effort.	
	1.2. Promote the initiative internally.	
	1.3. Solicit support from the Board of Directors..	
	1.4. Ask questions	
	1.5. Confer with research and development (R&D) Directors/Managers.	
	1.6 Liaise with other senior manager with respect to areas of impact.	
2. Assess research outcomes objectively	2.1. Establish review criteria.	
	2.2. Review data and research results.	
	2.3. Evaluate outcomes to original research and development (R&D) strategy.	
	2.4. Determine need for further research or strategy adjustment.	
	2.5. Take appropriate action.	
3. Evaluate potential for continued development/ commercialization	3.1. Complete a feasibility review.	
	3.2. Seek internal and external input.	
	3.3. Develop risk/benefit profile.	
	3.4. Prepare recommendations and report on moving research outcomes forward in the development process.	
	3.5. Make 'Go/No Go' decision in consultation with Executive team.	
4. Confirm understanding of continued development/commercialization	4.1. Review regulations/detailed knowledge of relative to the project.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
moving forward	4.2. Consult with internal/external manufacturing/production to assess feasibility of current product or technology.	
	4.3. Seek internal and external input/lessons learned.	
	4.4. Contact regulatory authority for additional insights.	
	4.5. Ensure that a record of understanding is created.	
5. Communicate advancement of scientific milestones to key stakeholders	5.1. Make sure the stakeholders understand the facts, milestones and objectives.	
	5.2. Adjust communication to the audience.	
	5.3. Provide regular updates on the progress.	
	5.4. Seek advice, information and expertise from the board and advisors.	
	5.5. Contact President/Chief Executive Officer for discussion, when needed.	
	5.6. Monitor trends relevant to audience.	

A Vice President, Research and Development must be able to:

E. Support the Chief Executive Officer (CEO)

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Support the corporate vision	1.1 Provide inputs to developing the corporate vision.	
	1.2 Provide feedback regarding the corporate vision.	
	1.3. Embody the vision and mission in actions and decisions.	
	1.4. Reward performance that is aligned with the vision and mission.	
2. Influence overall business decision making	2.1. Provide inputs.	
	2.2. Provide feedback.	
	2.3. Participate in decision making.	
	2.4. Rally to decisions.	
	2.5. Participate in sub-committees, as required.	
	2.6. Lead some sub-committees, as required.	
	2.7. Develop analysis of own and key competitors' operations.	
	2.8. Share obstacles and issues with the Executive committee including proposed solutions and options.	
3. Represent research and development (R&D) interests on the Executive team, as required	3.1. Share vision of research and development (R&D) group.	
	3.2. Share requirements and interests of research and development (R&D) group.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Assess feasibility of proposed company strategies on research and development (R&D) effort.	
	3.4. Lobby for resources.	
4. Communicate corporate directions to research and development (R&D) group	4.1. Identify key messages and cascade to research and development (R&D) efforts and activities.	
	4.2. Develop communication strategy.	
	4.3. Implement communication strategy.	
	4.4. Support Executive team directions.	
	4.5. Listen to feedback from staff.	
5. Provide status reports on research and development (R&D) activities to the Executive team and the Board	5.1. Oversee development of progress reports.	
	5.2. Share progress report with Chief Executive Officer (CEO) and Executive team.	
	5.3. Provide a strategic assessment of performance including impact on business plans and proposed action plans.	
	5.4. Relate strategic performance to market trends and competitor activities.	
6. Develop and maintain support from the Board of Directors and senior staff	6.1. Articulate expectations.	
	6.2. Ask for and provide feedback.	
	6.3. Build consensus.	
	6.4. Provide regular updates of information.	
	6.5. Allocate resources appropriately.	

A Vice President, Research and Development must be able to:

F. Act as expert advisor

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Serve as an in-house consultant	1.1. Communicate leading medical practices in the relevant area of interest.	
	1.2. Share medical knowledge and insight related to the relevant area of interest.	
	1.3. Communicate leading practices in working to GxP requirements.	
	1.4. Communicate leading regulatory practices in the relevant area of interest.	
	1.5. Participate in industrial route realization, including empirical route evaluation, process development and technology transfer.	
	1.6. Share 'lessons learned' (both positive and negative) from past medical practice, pre-clinical studies and clinical/field trials.	
	1.7. Stay current with pertinent legislation and regulations.	
	1.8. Update knowledge and understanding by reading scientific/medical journals and attending professional conferences.	
	1.9. Maintain networks with other experts in the appropriate field.	
2. Participate in peer reviews	2.1. Evaluate content of a proposed publication.	
	2.2. Provide a critique of a proposed publication.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.3. Make suggestions to improve quality/scientific basis of a proposed publication.	
	2.4. Identify overlooked ideas, theories or bodies of knowledge pertinent to the content of a proposed publication.	
	2.5. Highlight shortcomings of a proposed publication, e.g. incomplete conclusions, faulty logic.	
3. Maintain status as a 'recognized' authority	3.1. Publish in peer reviewed journals.	
	3.2. Act as presenter at national conferences.	
	3.3. Author and publish books.	
	3.4. Maintain a strong publication record.	
	3.5. Pursue public recognition through association awards, press releases.	
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.	
	5.2. Represent the organization to media on scientific matters.	
	5.3. Relate to public concerns.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	5.4. Liaise with regulatory bodies on behalf of the organization.	
	5.5. Interact with politicians and bureaucrats.	

A Vice President, Research and Development must be able to:

G. Demonstrate generally accepted management capabilities

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Apply generally accepted management principles and techniques	1.1. Align management and leadership style with the corporate culture and objectives.	
	1.2. Ensure that team uses accepted management principles and techniques.	
	1.3. Create opportunities for information sharing across the team (e.g. regular meetings, governance structure).	
	1.4. Comply with corporate policies and guidelines.	
	1.5. Make sure the procedures and structures are in place to achieve goals.	
	1.6. Establish the appropriate framework for evaluating performance and progress to plan.	
	1.7. Monitor and measure progress and performance.	
	1.8. Establish reporting schedule and distribution listing for regular reporting.	
	1.9. Keep team informed of progress and performance.	
	1.10. Provide coaching, mentoring and training to staff as required.	
2. Apply project management leading practices	2.1. Develop and work to a documented project plan.	
	2.2. Understand management expectations and set milestones accordingly.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.3. Determine the level and nature of resources needed to support the project plan.	
	2.4. Administer project budget.	
	2.5. Monitor progress to plan and achievement of project milestones.	
	2.6. Revisit and revise timelines, as required.	
	2.7. Identify emerging risks, issues and concerns.	
	2.8. Mitigate identified risks, issues and concerns and monitor to ensure the resolution of issues.	
	2.9. Report on performance to the project plan and recommended actions to address variances to plan.	
3. Plan and implement strategically	3.1. Chair meetings, as required.	
	3.2. Facilitate team planning efforts.	
	3.3. Work towards measurable objectives.	
	3.4. Implement changes, as required.	
	3.5. Assign individuals and responsibilities appropriately (level, background/experience, expertise).	
	3.6. Empower people.	
	3.7. Promote accountability.	
	3.8. Establish framework for monitoring plans.	
4. Make decisions	4.1. Be fully informed.	
	4.2. Be decisive in difficult situations.	
	4.3. Identify and employ different decision-making techniques, as appropriate.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	4.4. Take responsibility.	
	4.5. Consider repercussions.	
	4.6. Develop contingency plans.	
	4.7. Involve others, as needed.	
	4.8. Make 'Go/ No-Go' decisions in consultation with the Executive team.	
5. Develop and manage budgets and forecasts	5.1. Access necessary information for budgeting and forecasting (funding resources and human resources).	
	5.2. Communicate expectations with regards to budgets and forecasting (funding resources and human resources).	
	5.3. Seek input from teams.	
	5.4. Monitor performance to budget and forecast.	
	5.5. Identify and investigate budget/forecast variances.	
6. Negotiate	6.1. Determine issues and party interests beforehand.	
	6.2. Establish real goals and interests.	
	6.3. Understand your role or that of your delegate.	
	6.4. Determine urgency.	
	6.5. Establish value proposition for all parties.	
	6.6. Strategize release of information.	
	6.7. Be ready to walk away or select another alternative.	
	6.8. Establish areas of agreement early.	
	6.9. Focus on major issues.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	6.10. Establish personal comfort level with conflict.	
	6.11. Complete negotiations and sign contracts, when applicable.	
	6.12. Modify negotiation style, as fits the circumstances.	
7. Identify and protect intellectual property	7.1. Understand corporate policies, guidelines and procedures pertaining to intellectual property.	
	7.2. Determine whether developments are able to be protected.	
	7.3. Identify work considered to be intellectual property.	
	7.4. Take the necessary actions to protect intellectual property.	
8. Protect sensitive/confidential information	8.1. Identify those records which meet the definition of sensitive information under the *Personal Information Protection and Electronic Documents Act* (PIPEDA).	
	8.2. Assure maintenance of confidentiality of the information.	
	8.3. Identify personnel with access to sensitive information.	
	8.4. Communicate confidential information appropriately to those who have a functional 'need to know'.	
	8.5. Store and secure confidential information in observance of applicable laws and company policies/procedures.	
9. Create and manage business relationships	9.1. Strategically select partners through proper due diligence.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	9.2. Ensure reporting takes place according to agreement.	
	9.3. Identify potential interested parties.	
	9.4. Arrange meetings, present and follow up with potential partners.	
	9.5. Ensure there is a good exit strategy.	
	9.6. Get approval from the Executive team and the Board of Directors about the contracts before sign off.	
	9.7. Negotiate and sign contracts.	
	9.8. Identify expectations of partnership.	
	9.9. Communicate regularly.	
	9.10. Monitor progress and determine if a change of partnership is needed.	
10.. Establish effective working relationships	10.1. Work effectively with Executive team members and others.	
	10.2. Share current knowledge with colleagues.	
	10.3. Recognize the skills and abilities of others.	
	10.4. Show respect.	
	10.5. Accept and appreciate different ways of doing things.	
11. Promote team building and development	11.1. Facilitate team planning efforts.	
	11.2. Work towards measurable objectives.	
	11.3. Implement changes, as required.	
	11.4. Assign responsibilities appropriately (level, background/experience, expertise).	
	11.5. Empower people.	
	11.6. Promote accountability.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	11.7. Encourage team member personal and professional development.	
12. Manage and promote change	12.1 Establish reason for change.	
	12.2. Promote cooperative (non-defensive) behaviour.	
	12.3. Communicate reason and nature of change effectively.	
	12.4. Seek buy in for change.	
	12.5. Facilitate implementation.	
	12.6. Plan and anticipate the future.	

A Vice President, Research and Development must be able to:

H. Oversee contractor relationships

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Approve key contractual agreements	1.1. Identify key contractual agreements.	
	1.2. Identify negotiation team members.	
	1.3. Develop negotiation strategy.	
	1.4. Implement negotiation strategy.	
2. Monitor contractor performance	2.1. Establish reporting schedule.	
	2.2. Review contractor performance to contractual requirements/performance indicators.	
	2.3. Identify areas requiring corrective action with the contractor.	
	2.4. Agree on course of corrective actions and expected results.	
	2.5. Seek approvals, as required.	
3. Manage contractor issues and risks on a proactive basis	3.1. Assess emerging issues and risks.	
	3.2. Determine impact of contractor issues/risks on the research and development (R&D) strategy, plan and objectives.	
	3.3. Quantify the financial impact of each risk/issue.	
	3.4. Develop mitigation strategies and plans for each emerging risk/issue.	
	3.5. Maintain productive relationships with contractors.	
	3.6. Assess effectiveness of mitigation strategies/actions.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
4. Authorize payment to subcontractors	4.1. Review delivered products/services to contract requirements.	
	4.2. Identify deficiencies, as appropriate.	
	4.3. Review deficiencies with contractor.	
	4.4. Achieve a mutually acceptable strategy and actions to address deficiencies.	
	4.5. Authorize payment.	
5. Report on subcontractor performance	5.1. Prepare a report on subcontractor performance to contract requirements.	
	5.2. Outline impact of subcontractor performance on overall research plan and objectives.	
	5.3. Develop options appropriate to subcontractor compliance and impact on research plan.	
	5.5. Present key findings to the Executive team.	
	5.6. Obtain approval for planned actions.	
	5.7. Work with the subcontractor to execute planned actions as appropriate.	

A Vice President, Research & Development must be able to:

I. Manage direct reports

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Define skill sets for research and development (R&D) performance	1.1. Identify what skill sets are required to meet research and development (R&D) goals.	
	1.2. Quantify and identify type of employees required.	
	1.3. Consider hiring and outsourcing, if necessary.	
	1.4. Include defined skill sets in job descriptions.	
	1.5. Define key performance indicators (KPIs) for research and development (R&D) human resources.	
	1.6. Develop a human resource strategy.	
2. Recruit, develop and retain staff	2.1. Identify top performers and recruitment tactics.	
	2.2. Employ available recruitment tools.	
	2.3. Establish compensation/benefits packages.	
	2.4. Foster positive work environment.	
	2.5. Encourage continuous learning at all levels.	
	2.6. Reward good performance.	
	2.7. Develop a succession plan.	
	2.8. Evaluate staff, as required.	
3. Comply with workforce and employment standards	3.1. Implement human resource policies and procedures.	
	3.2. Apply employment standards.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Promote fair and equal opportunity employment.	
	3.4. Enforce adherence to established workplace standards.	
4. Organize human resources	4.1. Build and develop teams to facilitate achievement of research and development (R&D) goals.	
	4.2. Specify general research and development (R&D) organizational structure.	
	4.3. Foster integration of team objectives and communication of results.	
	4.4. Monitor team functions/activities.	
5. Decide on compensation/benefits	5.1. Reflect industry and local standards.	
	5.2. Consider market forces.	
	5.3. Ensure flexibility in packages.	
	5.4. Ensure fairness in compensation/benefits offered.	
6. Delegate and monitor accountabilities and responsibilities	6.1. Assign accountabilities and responsibilities appropriately (based on level, background/experience, expertise).	
	6.2. Provide clear expectations regarding performance.	
	6.3. Communicate expectations regarding performance and outcomes to team members.	
	6.4. Recognize efforts that meet or exceed expected results.	
	6.5. Address situations where work quality, outcomes and assumption of responsibilities do not meet expectations.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
7. Identify development needs	7.1. Monitor performance.	
	7.2. Identify weaknesses and strengths.	
	7.3. Explore individual expectations and interests regarding development options.	
	7.4. Support individual development goals and objectives.	
	7.5. Follow up on progress, improvement and achievements.	
8. Evaluate performance	8.1. Utilize a standard review process, as prescribed by company policies and guidelines.	
	8.2. Assess performance to key performance criteria (actions and objectives agreed upon during prior discussions of performance).	
	8.3. Solicit the individual's perspective on performance relative to agreed upon actions and objectives.	
	8.4. Review performance assessment with the direct report.	
	8.5 Offer positive reinforcement.	
	8.6. Discuss and explore points of difference, and achieve consensus on actions and objectives moving forward.	
	8.7. Create a record of the performance assessment and agreed upon plan of action.	
	8.8. Reward good performance.	
9. Manage staff terminations	9.1. Comply with employment agreements and governing legislation.	
	9.2. Act with fairness, compassion and empathy.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	9.3. Be consistent in approach.	
	9.4. Mitigate risks associated with dismissal.	
	9.5. Conduct exit interviews, when possible.	
10. Address other human resource (HR) responsibilities	10.1. Maintain personnel files.	
	10.2. Counsel direct reports.	
	10.3. Investigate workplace complaints, infractions or incidents.	
	10.4. Discipline direct reports, as appropriate.	

A Vice President, Research and Development must be able to:

J. Apply professional practices

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
1. Comply with established policies, procedures and protocols	1.1. Follow established corporate protocols and procedural documentation (e.g., policies, procedures, standard operating procedures (SOPs).	
	1.2. Maintain confidentiality (e.g., data, records, intellectual property, client information).	
	1.3. Practice and adhere to leading project management practices.	
	1.4. Practice and adhere to legislative/regulatory requirements.	
2. Comply with all applicable regulations, legislation and Good Practices (GxPs)	2.1. Know and understand applicable rules, regulations and legislation.	
	2.2. Review relevant literature.	
	2.3. Identify and document requirements.	
	2.4. Work within regulatory framework.	
	2.5. Identify situations that do not align with the regulatory framework.	
	2.6. Determine appropriate corrective action(s).	
	2.7. Determine impact of the conformance to the regulatory framework and the impact on the research/trial plan and objectives.	
	2.8. Report identified situations on non-conformance, estimated impact and proposed corrective actions.	
	2.9. Implement approved corrective actions.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	2.10. Update research/trial plan(s) if necessary.	
3. Demonstrate project management capabilities	3.1. Manage large and complex projects.	
	3.2. Show financial acumen in the planning and oversight of project budgets and valuations.	
	3.3. Apply understanding of portfolio management concepts.	
	3.4. Apply in-depth specialty knowledge to complete projects of diverse scope and complexity.	
4. Demonstrate product development and commercialization knowledge and understanding	4.1. Demonstrate understanding of external market needs and impact on business unit products and services.	
	4.2. Demonstrate understanding of product development life cycle.	
	4.3. Apply system modeling to adapt research developments for commercialization and/or clinical application.	
	4.4. Translate research into the design/conduct/oversight of clinical trials and/or the development of successful therapies or relevant biotechnology.	
	4.5. Lead research and development (R&D) teams through the product commercialization process.	
	4.6. Ensure research and development (R&D) teams follow product development best practices,	
	4.7. Ensure teams adhere to specific regulatory requirements (as needed).	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
5. Demonstrate medical, scientific and research and development (R&D) experience	5.1. Apply knowledge of the clinical research settings and clinical trial monitoring, as required.	
	5.2. Comply with regulatory authorities on research and development (R&D) issues.	
	5.3. Apply medical and scientific principles and concepts.	
	5.4. Apply knowledge of global regulatory requirements where appropriate (Food and Drug Act (FDA), International Conference on Harmonization (ICH) etc).	
	5.5. Use understanding of regulatory statistical requirements to provide statistically sound research and development (R&D) design and analysis input to submission documents.	
	5.6. Apply experience working with research and development (R&D) data to create study reports submission data summaries and other contributions to regulatory documents.	
6. Ensure staff are knowledgeable of and take appropriate safety measures	6.1. Ensure appropriate use of personal protective equipment (e.g., mask, gloves, laboratory coat, etc.).	
	6.2. Ensure utilization of laboratory safety devices in a correct manner (e.g., biological safety cabinets, fume hoods, laminar flow cabinets, safety pipeting devices, safety containers and carriers, safety showers, eye washes).	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	6.3. Ensure the application of the principles of working with hazardous chemical or biological material regarding reagent preparation, storage and disposal and equipment cleaning and disinfecting (as per Workplace Hazard Management Information System (WHMIS) and related legislation).	
	6.4. Ensure appropriate actions are taken to minimize the potential hazards/dangers related to disinfection/sterilization methods, biological samples, radioactive materials, equipment and laboratory supplies.	
	6.5. Ensure appropriate techniques are being used to label, date, handle, store, and dispose of chemicals, dyes, reagents and solutions according to Workplace Hazard Management Information System (WHMIS) and existing legislation.	
	6.6. Ensure appropriate first-aid treatment by mobilizing emergency response (e.g., external and/or internal response, such as an Emergency Response Team) to respond to incidents such as chemical injury, traumatic injury, electrical shock,burns, radioisotope contamination.	
	6.7. Ensure appropriate response to fire emergencies.	
	6.8. Ensuring prompt reporting of incidents related to safety and personal injury (e.g., needle stick injuries), in a timely manner to management.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
7. Demonstrate professional integrity	7.1. Report findings and results accurately and honestly.	
	7.2. Respect confidentiality (e.g., data, records, intellectual property, client information).	
	7.3. Take responsibility for actions and decisions.	
	7.4. Accept accountability for outcomes of actions and decisions.	
	7.5. Maintain high standards in practice.	
	7.6. Apply relevant internationally accepted protocols and practices, regulations, and legislation.	
	7.7. Follow rules and regulations administered by regulatory bodies, such as Health Canada, Agriculture and Agri-Food Canada.	
	7.8. Maintain confidentiality (e.g., data, records, intellectual property, client information).	
	7.9. Demonstrate openness, transparency and fairness.	
	7.10. Show respect for team members, peers and other individuals.	
	7.11. Act with regard to corporate ethics and values.	

A Vice President, Research and Development must be able to:

K. 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 behavior and integrity.	
	1.4. Demonstrate balanced judgment.	
	1.5. Show and promote mutual respect.	
	1.6. Promote trust and honesty.	
	1.7. Promote accountability.	
2. Demonstrate critical thinking/problem solving	2.1. Identify the problem.	
	2.2. Apply logical and methodical approach to identify and assess the cause(s) of the problem.	
	2.3. Develop and assess options to address the problem	
	2.4. Apply knowledge, training and creativity to determine the appropriate course of action.	
	2.5. Oversee implementation of the selected course of action.	
	2.6. Evaluate the effectiveness of the selected course of action.	
3. Set priorities	3.1. Reference critical information when setting priorities.	
	3.2. Establish criteria to facilitate priority setting, such as risk, time-sensitivity, investment required, etc.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	3.3. Consider available resources and redistribute work/assignments, as appropriate.	
	3.4. Maintain awareness of time-sensitive issues and critical deadlines.	
	3.5. Keep goals and objectives in mind.	
	3.6. Multi-task where possible and practical.	
	3.7. Communicate priorities to team members/relevant personnel.	
	3.8. Review and adjust established priorities as appropriate.	
4. Organize work	4.1. Think ahead and anticipate	
	4.2. Plan work schedule according to tasks and availability of equipment.	
	4.3. Demonstrate effective time management.	
	4.4. Set priorities and objectives.	
	4.5. Identify and manage resources needed to complete work.	
	4.6. Establish processes/systems/methodologies to enhance effectiveness.	
	4.7. Determine the information/data to be collected.	
	4.8. Recognize where templates and standard forms would facilitate data and information management.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	4.9. Develop hard copy and electronic templates/forms (or update existing templates and form) to facilitate standard and consistent collection of information and data.	
	4.10. Support use of the templates/forms with standard operating procedures (SOPs), help aids, education and examples.	
5. Demonstrate attention to detail	5.1. Establish and monitor a reminder/bring forward system to ensure trial stays on schedule.	
	5.2. Address follow-ups/issues in a timely manner.	
	5.3. Ensure deadlines are met.	
	5.4. Implement document control strategy supported by procedures and appropriate storage/retrieval/security system(s).	
	5.5. Maintain accurate, detailed records with appropriate back-up/recovery plans.	
	5.6. Validate analytical results.	
	5.7. Maintain up-to-date content in the management information system(s)	
6. Build networks internally and externally	6.1. Communicate well, clearly, and in a timely manner both verbally and in writing.	
	6.2. Listen.	
	6.3. Ensure awareness of differences, treat everyone fairly/equitably and accommodate to special needs.	
	6.4. Recognize the skills and abilities of others.	

TASKS	SUBTASKS	IMPORTANT ACTIONS / PERFORMANCE STANDARDS
	6.5. Use various approaches in response to different individual styles.	
7. Communicate well and clearly	7.1. Demonstrate effective 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.	
8. Embrace continuous learning and development	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.	

Strong Board of Directors

The Board of Directors is composed of experts in the field of HR, CEOs, CFOs and CSOs from across Canada with extensive financial and industry experience representing companies and organizations in Canada's bio-economy. BioTalent Canada is not a membership organization and therefore relies on the guidance provided by its dedicated volunteer Board of Directors.

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