# Overview of key features of COVID-19 vaccines authorized in Canada

| **Product brand name and formulation**  | **Pfizer-BioNTech Comirnaty** | **Moderna Spikevax** | **Janssen Jcovden****(original strain)** | **Novavax Nuvaxovid****(original strain)** | **Medicago Covifenz****(original strain)** **not yet available** |
| --- | --- | --- | --- | --- | --- |
| **Maroon cap and label****(original strain)****6 months to 4 years of age** | **Orange cap and label****(original strain)****5 to 11 years of age** | **Grey cap and label****(original strain)****12 years of age and over** | **Grey cap and label****(original and Omicron BA.4/BA.5 strains)****12 years of age and over for booster** | **Red cap** | **Royal blue cap** |
| **Light blue label border****(original strain)****0.20 mg/mL** | **Purple label border****(original strain)****0.10 mg/mL** | **Green label border****(original and Omicron BA.1 strains)****0.10 mg/mL** |
| **DIN/SNOMED** | 02530325/34611000087105 | 02522454/33361000087101 | 02527863/33881000087102 | 02531461/37691000087106 | 02510014/28571000087109 | 02527685/35651000087105 | 02530252/37311000087109 | 02513153/28951000087107 | 02525364/29171000087106 | 02521326/30151000087105 |
| **Type of vaccine** | mRNA | Viral vector (adenovirus type 26)  | Protein subunit  | Virus-like particle produced in plants |
| **Antigen component** | One dose (0.2 mL) contains 3 mcg of mRNA encoding original strain spike protein (embedded in lipid nanoparticles). | One dose (0.2 mL) contains 10 mcg of mRNA encoding original strain spike protein (embedded in lipid nanoparticles). | One dose (0.3 mL) contains 30 mcg of mRNA encoding original strain spike protein (embedded in lipid nanoparticles). | One dose (0.3 mL) contains 15 mcg of mRNA encoding original strain spike protein and 15 mcg of mRNA encoding Omicron BA.4/BA.5 spike protein mRNA (both embedded in lipid nanoparticles). | 0.2 mg/mL of mRNA encoding original strain spike protein (mRNA-1273) [embedded in lipid nanoparticles]. | 0.1 mg/mL of mRNA encoding original strain spike protein (mRNA-1273) [embedded in lipid nanoparticles].   | 0.1 mg/mL. One dose (0.5 mL) contains 25 mcg of mRNA encoding original strain spike protein (mRNA-1273) and 25 mcg of mRNA encoding Omicron BA.1 spike protein (mRNA-1273.529) [both embedded in lipid nanoparticles].  | One dose (0.5 mL) contains 5 x 1010 viral particles of adenovirus type 26 (Ad26) encoding the original strain spike protein. | One dose (0.5 mL) contains 5 mcg of SARS-CoV-2 recombinant original strain spike protein.  | Each dose (0.5 mL) contains 0.25 mL of the antigen component containing 3.75 mcg of the virus-like particles (VLP) of the original strain spike protein. |
| **Date of authorization in Canada** | September 9, 2022 (primary series for 6 months to 4 years of age). | November 19, 2021 (primary series for 5 to 11 years of age).August 19, 2022 (first booster for 5 to 11 years of age). | March 15, 2022 (primary series for 12 years and older). This replaces purple capped product that was authorized on December 9, 2020, for the primary series for 16 years and older and extended to 12 to 15 year olds on May 5, 2021. First booster recommendations were made on September 11, 2021 for 18 years of age and over.June 1, 2022 (first booster for 16 and 17 year olds). | October 7, 2022 (booster dose for 12 years and older). | December 23, 2020 (primary series for 18 years and older).August 27, 2021 (primary series for 12 to 17 years of age).November 12, 2021 (first booster for 18 years and older).March 17, 2022 (primary series for 6 to 11 years of age). | March 17, 2022 (new concentration and dosage; primary series for 6 to 11 years and booster for 18 years and older).July 14, 2022 (primary series for 6 months to 5 years). | September 1, 2022 (booster dose in individuals aged 18 years and older). | March 5, 2021 (primary series for 18 years and over).May 11, 2022 (first booster for 18 years and older). | February 17, 2022 (primary series for 18 years and older). | February 24, 2022 (primary series for 18 to 64 years of age). |
| **Authorized ages for use****[[1]](#endnote-1)** | 6 months to 4 years of age for the primary series.  | 5 through 11 years of age for the primary series and for first booster. | 12 years and older for the primary series.16 years and older for first booster. | 12 years and older for booster dose. | 6 years and older for the primary series.18 years and older for first booster. | 6 months to 11 years for the primary series.18 years and older for first booster. | 18 years and older for booster dose.  | 18 years and older for the primary series and first booster. | 18 years and older for the primary series. | 18 to 64 years of age for the primary series. |
| **Authorized dose** | **0.2 mL** (3 mcg of mRNA encoding original strain spike protein)[[2]](#endnote-2).  | **0.2 mL** (10 mcg of mRNA encoding original strain spike protein)b. | **0.3 mL** (30 mcg of mRNA encoding original strain spike protein). | **0.3 mL** (30 mcg of mRNA: 15 mcg encoding original strain spike protein AND 15 mcg of mRNA encoding Omicron BA.4/BA.5 spike protein). | **0.25 mL** (50 mcg of mRNA encoding original strain spike protein) for the primary series for ages 6 to 11 years.**0.5 mL** (100 mcg of mRNA encoding original strain spike protein) for the primary series for ages 12 years and older.**0.25 mL** (50 mcg of mRNA encoding original strain spike protein) for first booster for ages 18 years and oldera. | **0.25 mL** (25 mcg of mRNA encoding original strain spike protein) for the primary series for ages 6 months to 5 years.**0.5 mL** (50 mcg of mRNA encoding original strain spike protein) for the primary series for ages 6 to 11 years.**0.5 mL** (50 mcg of mRNA encoding original strain spike protein) for booster for ages 18 years and older. | **0.5 mL** (50 mcg dose of mRNA: 25 mcg of mRNA encoding original strain spike protein AND 25 mcg of mRNA encoding Omicron BA.1 spike protein) for booster for ages 18 years and oldera. | **0.5 mL** (5 x 1010 viral particles per dose encoding original strain spike protein). | **0.5 mL** (5 mcg of original strain spike protein). | **0.5 mL** (3.75 mcg of original strain spike protein). |
| **Authorized schedule for the primary series**a | 3 doses, initial 2 doses 3 weeks apart, 3rd dose at least 8 weeks after the 2nd dose | 2 doses, 3 weeks apart | 2 doses, 3 weeks apart | Not authorized | 2 doses, 4 weeks apart | 2 doses, 4 weeks apart | Not authorized | 1 dose | 2 doses, 3 weeks apart | 2 doses, 3 weeks apart |
| **Authorized schedule for booster**a | Not authorized. | First booster: at least 6 months after completing the primary series for 5 years through to 11 years of age. | First booster: at least 6 months after completing the primary series for 16 years and older. | Booster at least 3 to 6 months after completing the primary series for 12 years and older. | First booster: at least 6 months after completing the primary series for 18 years and older. | First booster: at least 6 months after completing the primary series for 18 years and older. | Booster at least 4 months after completing the primary series or a previous booster dose for 18 years and older.  | First booster: at least 2 months after the primary vaccination in individuals 18 years and older. | Not authorized. | Not authorized. |
| **Nature of the antigen** | Trans-membrane prefusion spike protein of the original strain | Trans-membrane prefusion spike protein of the original strain | Trans-membrane prefusion spike protein of the original strain | Trans-membrane prefusion spike protein of the original and Omicron BA.4/BA.5 strains | Trans-membrane prefusion spike protein of the original strain | Trans-membrane prefusion spike protein of the original strain | Trans-membrane prefusion spike protein of the original and Omicron BA.1 strains | Trans-membrane prefusion spike protein of the original strain | Recombinant prefusion spike protein of the original strain | Recombinant virus-like particle prefusion spike protein of the original strain |
| **Potential allergens** | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polyethylene glycol (PEG)Tromethamine (trometamol or Tris) | Polysorbate 80 | Polysorbate 80 | Polysorbate 80Polyethylene glycol (PEG)KanamycinCarbenicillin |
| **Adjuvant (if present)** | None | Matrix-M; comes premixed with the product | AS03; added to the product by the immunizer |
| **Storage****[[3]](#endnote-3)** | Ultra-frozen at -90°C to -60°C until expiry.Do NOT store vials at -25°C to -15°C.Refrigerator (2°C to 8°C) for 10 weeks.Room temperature: no more than a total of 12 hours before dilution and no more than 12 hours post-dilutionb Once punctured for dilution, use within 12 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C). Must not be used beyond 12 hours after first puncture.Do not refreeze once thawed. | Ultra-frozen at -90°C to -60°C until expiry.Do NOT store vials at -25°C to -15°C.Refrigerator (2°C to 8°C) for 10 weeks.Room temperature: no more than a total of 12 hours before dilution and no more than 12 hours post-dilutionbOnce punctured for dilution, use within 12 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C). Do not refreeze once thawed. | Ultra frozen at -90°C to -60°C until expiry.Do NOT store vials at -25°C to -15°C.Refrigerator (2°C to 8°C) for 10 weeks.Room temperature: no more than a total of 12 hours before first puncture and no more than 12 hours after first punctureb Once punctured, use within 12 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C)Do not refreeze once thawed. | Ultra frozen at -90°C to -60°C until expiry.Do NOT store vials at -25°C to -15°C.Refrigerator (2°C to 8°C) for 10 weeks.Room temperature: no more than a total of 12 hours before first puncture and no more than 12 hours after first punctureb Once punctured, use within 12 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C)Do not refreeze once thawed. | Frozen (-50°C to -15°C) until expiry[[4]](#endnote-4).Refrigerated (2°C to 8°C) for up to 30 days prior to first use.Room temperature (8°C to 25°C) for a total of up to 24 hours (whether unpunctured or punctured).Once punctured, use within 24 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C). Do not puncture the vial more than 20 times. Do not refreeze once thawed. | Frozen (-50°C to -15°C) until expiryd.Refrigerated (2°C to 8°C) for up to 30 days prior to first use.Room temperature (8°C to 25°C) for a total of up to 24 hours (whether unpunctured or punctured).Once punctured, use within 24 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C). Do not puncture the vial more than 10 times.Do not refreeze once thawed. | Frozen (-50°C to -15°C) until expiryd.Refrigerated (2°C to 8°C) for up to 30 days prior to first use. Room temperature (8°C to 25°C) for a total of up to 24 hours (whether unpunctured or punctured).Once punctured, use within 24 hours. Punctured vials can be stored at room temperature or refrigerated (between 2°C to 25°C).Do not refreeze once thawed.  | Frozen (-25°C to -15°C). The expiry date for frozen storage is printed on the vial and carton after “EXP”.Refrigerated (2°C to 8°C) for a single period of up to 11 months, not exceeding the original expiry date. Upon moving the product to a refrigerator, the updated expiry date must be written on the carton. Once punctured, use within 6 hours. After the first puncture: store refrigerated (2°C to 8°C) for up to 6 hours or store at room temperature (25°C max) for up to 3 hours. | Unopened vials can be stored refrigerated (2°C to 8°C) for a maximum of 9 months.After first puncture: use within 6 hours. Punctured vials can be stored between 2°C to 25°C. Do not freeze. | Store unopened vials and adjuvant in a refrigerator (2°C to 8°C) until expiry (check expiry of antigen and adjuvant).Once the antigen and adjuvant are mixed, the vaccine must be used within 6 hours, and handled and stored at room temperature (20°C to 30°C). Do NOT refrigerate a vial mixed with the adjuvant; if the mixed vaccine is refrigerated, it must be discarded[[5]](#endnote-5). Do not freeze. |
| **Transport**  | Before puncture:If local redistribution is needed, full cartons containing unpunctured vials may be transported at -90°C to -60°C; full cartons or individual unpunctured vials may also be transported at 2°C to 8°C.After puncture:There is not enough data to support transportation of open vials and loaded syringes. | Before puncture:If local redistribution is needed, full cartons containing unpunctured vials may be transported at -90°C to -60°C; full cartons or individual unpunctured vials may also be transported at 2°C to 8°C.After puncture:There is not enough data to support transportation of open vials and loaded syringes. | Before puncture:If local redistribution is needed, full cartons containing unpunctured vials may be transported at -90°C to -60°C; full cartons or individual unpunctured vials may also be transported at 2°C to 8°C.After puncture:There is not enough data to support transportation of open vials and loaded syringes.  | Before puncture:If local redistribution is needed, full cartons containing unpunctured vials may be transported at -90°C to -60°C; full cartons or individual unpunctured vials may also be transported at 2°C to 8°C.After puncture:There is not enough data to support transportation of open vials and loaded syringes.  | Before puncture:Frozen transport preferred at -50°C to -15°C.Refrigerated at 2°C to 8°C for up to 12 cumulative hours in qualified containers permitted.After puncture:Open vials and syringes may be transported at 2°C to 25°C for up to 24 hours as long as total time at room temperature does not exceed 24 hours and total time post-puncture does not exceed 24 hours.  | Before puncture:Frozen transport preferred at -50°C to -15°C.Refrigerated at 2°C to 8°C for up to 12 cumulative hours in qualified containers permitted.After puncture:Open vials and syringes may be transported at 2°C to 25°C for up to 24 hours as long as total time at room temperature does not exceed 24 hours and total time post-puncture does not exceed 24 hours.  | Before puncture:Frozen transport preferred at -50°C to -15°C.Refrigerated at 2°C to 8°C for up to 12 cumulative hours in qualified containers permitted.After puncture:Open vials and syringes may be transported at 2°C to 25°C for up to 24 hours as long as total time at room temperature does not exceed 24 hours and total time post-puncture does not exceed 24 hours. | Before puncture:Frozen -25°C to -15°C.2°C to 8°C as long as the appropriate storage conditions (temperature, time) are applied.After puncture:Open vials and syringes may be transported at 2°C to 8°C for up to 6 hours as long as they are used within 6 hours of first puncture. | Before puncture:2°C to 8°C and the temperature monitored during transport.After puncture:Open vials may be transported at 2°C to 25°C for up to 6 hours as long as total time post puncture does not exceed 6 hours. A loaded syringe should not be transported aside from routine foot traffic in a clinical or medical setting. | Before puncture:Unpunctured vials may be transported at 2°C to 8°C.After puncture:Once the antigen and adjuvant components are mixed, the vaccine must be used within 6 hours, and handled and stored at room temperature (20°C to 30°C). Do NOT refrigerate mixed vials.  |
| **Reconstitution** | Yes – 0.9% sodium chloride diluent provided by the manufacturerb.**2.2 mL** of diluent is added to the vial.Store diluent at room temperature. | Yes – 0.9% sodium chloride diluent provided by the manufacturerb.**1.3 mL** of diluent is added to the vial.Store diluent at room temperature. | No. | Yes – AS03 adjuvant provided by the manufacturere.**2.5 mL** of adjuvant added to the antigen vial.Before mixing with antigen, refrigerate adjuvant at 2°C to 8°C with the COVIFENZ antigen vial in the packaging until expiry.After mixing with the antigen, store at room temperature (20°C to 30°C) and use within 6 hours. Do NOT refrigerate mixed vials. |
| **Route of administration** | Intramuscular |  | Intramuscular |
| **Syringe and needle selection[[6]](#endnote-6)**  | Preferentially use a low dead-volume syringe and/or needle.21-gauge or narrower needle for reconstitution.22- to 25-gauge needle for administration[[7]](#endnote-7). | Preferentially use a low dead-volume syringe and/or needle. 21-gauge or narrower needle for reconstitution.22- to 25-gauge needle for administrationg. | Preferentially use a low dead-volume syringe and/or needle.22- to 25-gauge needle for administrationg. | Preferentially use a low dead-volume syringe and/or needle.22- to 25-gauge needle for administrationg. | Preferentially use a low dead-volume syringe and/or needle.22- to 25-gauge needle for administrationg.  | Preferentially use a low dead-volume syringe and/or needle.22- to 25-gauge needle for administrationg. | Preferentially use a low dead-volume syringe and/or needle.22- to 25-gauge needle for administrationg. | 22- to 25-gauge needle for administrationg. | 22- to 25-gauge needle for administrationg. | 21-gauge or wider needle for reconstitution is recommended (23-gauge may be used). See product monograph for technique to withdraw the adjuvante.23-gauge needle for administration is recommended. (25-gauge may be used. Note: ensure that the needle is securely attached to the syringe and administer slowly). |
| **Formats available** | Multi-dose vial.Before dilution, vial contains 0.4 mL.After dilution with 2.2 mL of diluent, contains 10 doses of 0.2 mLb. Preservative-free. | Multi-dose vial.Before dilution, vial contains 1.3 mL.After dilution with 1.3 mL of diluent, contains 10 doses of 0.2 mLb.Preservative-free. | Multi-dose vial. 2.25 mL in a vial; 6 doses of 0.3 mLb.Preservative-free. | Multi-dose vial.2.25 mL in a vial; 6 doses of 0.3 mLb. Preservative-free. | Multi-dose vial. 0.20 mg/mL; 5 mL in a vial; 10 doses of 0.5 mL; 20 doses of 0.25 mL.Stopper should not be punctured more than 20 times.Preservative-free. | Multi-dose vial.0.10 mg/mL; 2.5 mL in a vial; 5 doses of 0.5 mL; 10 doses of 0.25 mL. Stopper should not be punctured more than 10 times.Preservative-free. | Multi-dose vial.0.10 mg/mL; 2.5 mL in vial; 5 doses of 0.5 mL. Preservative-free. | Multi-dose vial. 5 x 1010 virus particles per 0.5 mL dose; 3.1 mL in a vial; 5 doses of 0.5 mL. Preservative-free. | Multi-dose vial. 5 mcg/0.5 ml; 5 mL in a vial; 10 doses of 0.5 mL.Preservative-free. | Multi-dose vial. Comes as 2.5 mL of antigen in a vial (larger vial) and 2.5 mL of AS03 adjuvant in another vial (smaller vial). After mixing adjuvant with the antigen, contains 3.75 mcg of original strain per 0.5 mL dose; 10 doses of 0.5 mL in reconstituted viale.Preservative-free. |
| **Expiry date** | 12 months after manufacturing date printed on vial label. | 12 months after manufacturing date printed on vial label. | 12 months after manufacturing date printed on vial label. | 12 months after manufacturing date printed on vial label. | Expiry date printed on vial and carton labels but it may be extended. For further information on shelf life extensions, see this website: [Shelf life extension for the Spikevax (elasomeran) COVID-19 vaccine with printed expiry dates on vial and carton labels](https://recalls-rappels.canada.ca/en/alert-recall/shelf-life-extension-spikevax-elasomeran-covid-19-vaccine-printed-expiry-dates-vial). | Expiry date printed on vial and carton labels but it may be extended. For further information on shelf life extensions, see this website: [Shelf life extension for the Spikevax (elasomeran) COVID-19 vaccine with printed expiry dates on vial and carton labels](https://recalls-rappels.canada.ca/en/alert-recall/shelf-life-extension-spikevax-elasomeran-covid-19-vaccine-printed-expiry-dates-vial). | Expiry date printed on vial and carton labels but it may be extended. For further information on shelf life extensions, see this website: [Shelf life extension for the Spikevax (elasomeran) COVID-19 vaccine with printed expiry dates on vial and carton labels](https://recalls-rappels.canada.ca/en/alert-recall/shelf-life-extension-spikevax-elasomeran-covid-19-vaccine-printed-expiry-dates-vial). | The expiry date for storage at -25°C to -15°C is printed on the vial and carton after “EXP”.The expiry date at 2°C to 8°C after thaw is for a single period of up to 11 months, not exceeding the original expiry date (EXP) on the labels.Upon moving the product to a refrigerator at 2°C to 8°C, the updated expiry date must be written on the carton and the vaccine should be used or discarded by the updated expiry date. The original expiry date should be made unreadable. | Do not use this vaccine after the expiry date, which is stated on the label after EXP. The expiry date refers to the last day of that month. | Check the expiry date on the antigen and adjuvant vials. The shelf-life on outer cartons, containing the antigen and the adjuvant, is based on the component with the shorter expiry date. |

1. Authorized per the product monograph. The National Advisory Committee on Immunization (NACI) recommendations may differ. Refer to the [COVID-19 vaccine chapter](https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-26-covid-19-vaccine.html) of the Canadian Immunization Guide. [↑](#endnote-ref-1)
2. Refer to the [Pfizer-BioNTech Comirnaty COVID-19 vaccine product monograph](https://covid-vaccine.canada.ca/comirnaty/product-details) for appropriate diluent, dilution instructions and type of needles/syringes that can be used to extract doses from the vial and for the storage and handling requirements. [↑](#endnote-ref-2)
3. Protected from light during storage. [↑](#endnote-ref-3)
4. Do not store on dry ice. [↑](#endnote-ref-4)
5. Refer to the [Medicago Covifenz COVID-19 vaccine product monograph](https://covid-vaccine.canada.ca/covifenz/product-details) for reconstitution instructions and type of needles/syringes that can be used to extract doses from the vial and for the storage and handling requirements. [↑](#endnote-ref-5)
6. Refer to the [Canadian Immunization Guide for needle selection guidelines](https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-8-vaccine-administration-practices.html#t3). [↑](#endnote-ref-6)
7. Source: [Vaccine administration practices: Canadian Immunization Guide](https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-8-vaccine-administration-practices.html). [↑](#endnote-ref-7)