New Zealand Data Sheet

BCG Vaccine SSI

Mycobacterium bovis BCG (Bacillus Calmette-Guerin), Danish strain 1331, live attenuated, 2-8 x 10^5 cfu powder and solvent for suspension for injection.

Presentation

Powder and solvent for suspension for injection.
White crystalline powder (might be difficult to see due to the small amount of powder in the vial). The solvent is a colourless solution without any visible particles.

After reconstitution, 1 dose (0.1 ml) for adults and children aged 12 months and over contains:
Mycobacterium bovis BCG (Bacillus Calmette-Guerin), Danish strain 1331, live attenuated, 2-8 x 10^5 cfu.

After reconstitution, 1 dose (0.05 ml) for infants under 12 months of age contains:
Mycobacterium bovis BCG (Bacillus Calmette-Guerin), Danish strain 1331, live attenuated, 1-4 x 10^5 cfu.
This is a multidose container. See **Package Quantities** section for the number of doses per vial.

For the full list of excipients, see **Pharmaceutical Precautions** section.

Uses

Actions

Pharmacotherapeutic group (ATC code): J07AN01.

The vaccine contains Mycobacterium bovis BCG (Bacillus Calmette-Guerin) of the Danish strain 1331. BCG is an attenuated strain of *Mycobacterium bovis*. Vaccination with BCG Vaccine SSI elicits a cell-mediated immune response that confers a variable degree of protection to infection with *M. tuberculosis*. The duration of immunity after BCG vaccination is not known, but there are some indications of a waning immunity after 10 years.

Vaccinated persons normally become tuberculin positive after 6 weeks.
A positive tuberculin skin test does indicate a response of the immune system to the BCG vaccination or to a mycobacterial infection, however the relationship between the post vaccination tuberculin skin test reaction and the degree of protection afforded by BCG remains unclear.

Antibiotic sensitivity of the BCG strain

Minimum Inhibitory Concentrations (MIC) values for selected anti-tuberculosis drugs against the BCG Danish strain 1331 using the Bactec 460 method are as presented in **Table 1**.

Table 1: MIC values for anti-tuberculosis drugs against BCG Danish strain 1331

Drug	Minimum Inhibitory Concentration (MIC)
Isoniazid	0.4 mg/l[(1)]
Streptomycin	2.0 mg/l
Rifampicin	2.0 mg/l
Ethambutol	2.5 mg/l

[1] There is no consensus as to whether *Mycobacterium bovis* should be classified as susceptible, intermediately susceptible or resistant to isoniazid when the MIC is 0.4 mg/l. However, based on criteria set for *Mycobacterium tuberculosis*, the strain could be considered to be of intermediate susceptibility.

BCG Danish strain 1331 is resistant to pyrazinamide.

Pharmacokinetics

Not relevant for vaccines.

Indications

Active immunisation against tuberculosis.
BCG Vaccine SSI is to be used on the basis of national official recommendations.

Dosage and Administration

Adults and children aged 12 months and over

A dose of 0.1 ml of the reconstituted vaccine is injected strictly by the intradermal route.

Infants under 12 months of age

A dose of 0.05 ml of the reconstituted vaccine is injected strictly by the intradermal route.

National recommendations should be consulted regarding the need for tuberculin testing prior to administration of BCG Vaccine SSI.

BCG Vaccine SSI should be administered with a syringe of 1 ml subgraduated into hundredths of ml (1/100 ml) fitted with a short bevel needle (25G/0.50 mm or 26G/0.45 mm).

Jet injectors or multiple puncture devices should not be used to administer the vaccine.

The injection site should be clean and dry. If antiseptics (such as alcohol) are applied to the skin, allow to evaporate completely before the injection is made.

BCG Vaccine SSI should be administered by personnel trained in the intradermal technique.

The vaccine should be injected strictly intradermally in the arm, over the distal insertion of the deltoid muscle onto the humerus (approx. one third down the upper arm), as follows:

- The skin is stretched between thumb and forefinger.
- The needle should be almost parallel with the skin surface and slowly inserted (bevel upwards), approximately 2 mm into the superficial layers of the dermis.
- The needle should be visible through the epidermis during insertion.
- The injection is given slowly.
- A raised, blanched bleb is a sign of correct injection.
- The injection site is best left uncovered to facilitate healing.

Contraindications

BCG Vaccine SSI should not be administered to individuals known to be hypersensitive to any component of the vaccine.

The vaccination should be postponed in persons suffering from acute severe febrile illness or with generalised infected skin conditions. Eczema is not a contraindication, but the vaccine site should be lesion free.

BCG Vaccine SSI should not be administered to persons in treatment with systemic corticosteroids or other immunosuppressive treatment including radiotherapy. This also includes infants exposed to immunosuppressive treatment in utero or via breastfeeding, for as long as a postnatal influence of the immune status of the infant remains possible (e.g. maternal treatment with TNF-α antagonists).

Furthermore BCG Vaccine SSI should not be given to persons suffering from malignant conditions (e.g. lymphoma, leukaemia, Hodgkin's disease or other tumours of the reticulo-endothelial system), those with primary or secondary immunodeficiencies, those with HIV-infection, including infants born to HIV-positive mothers.

In persons whose immune status is in question, the BCG vaccination should be postponed until the immune status has been evaluated.

The effect of BCG vaccination may be exaggerated in immunosuppressed patients, and a generalised BCG-infection is possible.

BCG Vaccine SSI should not be given to patients who are receiving anti-tuberculosis drugs.

Warnings and Precautions

Although anaphylaxis is rare, facilities for its management should always be available during vaccination. Whenever possible, patients should be observed for an allergic reaction for up to 15-20 minutes after receiving immunization.
Tuberculin positive persons (consult national recommendations for the definition of a positive tuberculin reaction) do not require the vaccine. Administration of the vaccine to such persons may result in a severe local reaction.

Administering the vaccine too deep increases the risk of discharging ulcer, lymphadenitis and abscess formation. Refer to the **Dosage and Administration** section for information on the method of administration.

BCG Vaccine SSI should under no circumstances be administered intravascularly.

Refer to the **Uses** section for information on the susceptibility of the BCG Danish strain 1331 to anti-tuberculous drugs.

Pregnancy and Lactation

Although no harmful effects to the foetus have been associated with BCG vaccine, vaccination is not recommended during pregnancy or lactation.

However, in areas with high risk of tuberculosis infection, BCG may be given during pregnancy or lactation if the benefit of vaccination outweighs the risk.

Effects On Ability To Drive And Use Machines

BCG Vaccine SSI has no or negligible influence on the ability to drive and use machines.

Adverse Effects

The expected reaction to successful vaccination with BCG Vaccine SSI includes induration at the injection site followed by a local lesion that may ulcerate some weeks later and heal over some months leaving a small, flat scar.

It also may include enlargement of a regional lymph node to < 1 cm.

Undesirable effects of the vaccine are listed in **Table 2**.

Table 2: Undesirable Effects of the Vaccine

	Uncommon (≥ 1/1000 to <1/100)	**Rare (≥ 1/10000 to <1/1000)**
Blood and lymphatic system disorder	• Enlargement of regional lymph node > 1 cm	-
Nervous system disorder	• Headache	-
Musculoskeletal and connective tissue disorders	-	• Osteitis
Infections and infestations	-	• Osteomyelitis • Supperative lumphadenitis • Injection site abcess
General disorders and administration site conditions	• Fever • Injection site ulceration • Injection site discharge	-
Immune system disorders	-	• Anaphylactic reaction • Allergic reaction

An excessive response to the BCG Vaccine SSI may result in a discharging ulcer. This may be attributable to inadvertent subcutaneous injection or to excessive dosage. The ulcer should be encouraged to dry and abrasion (by tight clothes, for example) avoided.

Expert advice should be sought regarding the appropriate treatment regimen for the management of systemic infections or persistent local infections following vaccination with BCG Vaccine SSI.

Interactions

Intradermal BCG vaccination may be given concurrently with inactivated or live vaccines, including combined measles, mumps and rubella vaccines.

Other vaccines to be given at the same time as BCG Vaccine SSI should not be given into the same arm. If not given at the same time an interval of not less than four weeks should normally be allowed to lapse between the administrations of any two live vaccines.

It is advisable not to give further vaccination in the arm used for BCG vaccination for 3 months because of the risk of regional lymphadenitis.

Overdosage

Overdose increases the risk of suppurative lymphadenitis and may lead to excessive scar formation.
Gross overdosage increases the risk of undesirable BCG complications.
For treatment of disseminated infections with BCG, refer to Adverse Effects section.

Pharmaceutical Precautions

List of excipients

Powder:
Sodium glutamate

Solvent:
Magnesium sulphate heptahydrate
Dipotassium phosphate
Citric acid, monohydrate
L-asparagine monohydrate
Ferric ammonium citrate
Glycerol 85%
Water for injections

Incompatibilities

BCG Vaccine SSI should not be mixed with other medicinal products.

Shelf life

BCG Vaccine SSI:
24 months.

From a microbiological point of view the product should be used immediately after reconstitution. In use stability in terms of viability has been demonstrated for 4 hours after reconstitution.

Special precautions for storage

Store in a refrigerator at 2°C–8°C.
Do not freeze. Store in original package in order to protect from light.

Medicine Classification

Prescription Only Medicine.

Package Quantities

Pack of 1 and 10 vials:

Powder in vial (amber type I glass) with a stopper (bromobutyl) and cap (aluminium) + 1 ml of solvent in a vial (type I glass) with a stopper (chlorobutyl) and a cap (aluminium).

One vial of reconstituted vaccine contains 1 ml, corresponding to 10 doses for adults and children aged 12 months and over (0.1 ml) or 20 doses for infants under 12 months of age (0.05 ml).

Not all pack sizes may be marketed.

Name and Address

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03 August 2015