**NEW ZEALAND DATA SHEET**

# INFLUVAC®

# 1. Product Name

Influvac, 15/15/15 µg per 0.5 mL, Suspension for injection

# 2. Qualitative and Quantitative Composition

Influvac is a purified, inactivated influenza vaccine (surface antigen), each 0.5 mL of which contains antigens representative of the following type:

A/Michigan/45/2015 (H1N1)pdm09-like strain (A/Singapore/GP1908/2015, IVR-180)
15 µg haemagglutinin/dose

A/Hong Kong/4801/2014 (H3N2)-like strain (A/Hong Kong/4801/2014, X-263B)
15 µg haemagglutinin/dose

B/Brisbane/60/2008-like strain (B/Brisbane/60/2008, wild type)
15 µg haemagglutinin/dose

For the full list of excipients, see section 6.1.

Influvac antigens have been produced from eggs and is inactivated by formaldehyde treatment. Each 0.5 mL may also contain not more than 100 ng ovalbumin, 0.01 mg formaldehyde, 15 microgram cetrimonium bromide, 1 mg sodium citrate, 0.2 mg sucrose, 1 ng gentamicin sulfate, traces of tylosine tartrate, hydrocortisone and polysorbate 80 which are used during the manufacturing process.

# 3. Pharmaceutical Form

Influvac is a clear colourless suspension for injection. It is an egg-grown, inactivated influenza virus vaccine based on isolated surface antigens of A and B strains of myxovirus influenza. The type and amount of viral antigens in Influvac conform to the requirements of the Australian Influenza Vaccine Committee (AIVC) and the New Zealand Ministry of Health for the winter of 2017. The strains chosen for vaccine manufacture are endorsed by the AIVC as being antigenically equivalent to the reference virus.

# 4. Clinical Particulars

## *4.1 Therapeutic indications*

For the prevention of influenza caused by influenza virus, types A and B in adults and children older than 6 months in accordance with the recommendations in the National Immunisation Guideline.

## *4.2 Dose and method of administration*

**Dose**

One dose is sufficient for persons previously exposed to viruses of similar antigenic composition to the strain(s) present in the vaccine. In those with some impairment of immune mechanisms, two doses separated by an interval of at least four weeks are recommended.

**Adults and children 3 years of age and older:** 0.5 mL

**Children from 6 months up to 35 months of age:** Clinical data are limited. A 0.25 mL dose is recommended.

For children from 6 months up to 9 years of age who have not previously been vaccinated, a second dose may be given after an interval of at least four weeks.

**Children less than 6 months:** The safety and efficacy of Influvac in children less than 6 months has not been established. No data are available.

### Method of administration

Influvac should be administered by intramuscular or deep subcutaneous injection. Influvac should not be administered intravenously.

Influvac should not be mixed with other injection fluids.

Data on the administration of Influvac with other vaccines is not available.

For administration of a 0.25 mL dose from a syringe, push the front side of the plunger exactly to the edge of the mark so that half of the volume is eliminated; a reproducible volume of vaccine remains in the syringe suitable for administration.

The syringe is for use in a single patient on one occasion only. Remaining contents should be discarded.

### Instructions for use/handling

See section 6.6.

### Vaccination schedule

Influvac should be administered before the beginning of the influenza season or as required by the epidemiological situation. Vaccination should be repeated every year with an age appropriate dose of vaccine of updated antigen composition.

## *4.3 Contraindications*

Hypersensitivity to the active substances, to any of the excipients and to residues of eggs, chicken protein, formaldehyde, cetrimonium bromide, polysorbate 80, or gentamicin.

Immunisation should be postponed in patients with an acute febrile illness.

The presence of a minor illness with or without fever should not contraindicate the use of Influvac.

## *4.4 Special warnings and precautions for use*

As with all injectable vaccines, appropriate medical treatment and supervision should always be readily available in case of a rare anaphylactic event following the administration of the vaccine.

Influvac should not be administered intravascularly.

Influvac should be administered subcutaneously to subjects with thrombocytopenia or a bleeding disorder, since bleeding may occur following an intramuscular injection.

Patients with impaired immune responsiveness, whether due to the use of immunosuppressive therapy, a genetic defect, human immunodeficiency virus (HIV) infection, or other causes, may have a reduced antibody response in active immunisation procedures.

Patients with a history of Guillain-Barre syndrome (GBS) with an onset related in time to influenza vaccination may be at increased risk of again developing GBS if given influenza vaccine. While this risk should be weighed against the benefits to the individual patient of influenza vaccination, it would seem prudent to avoid subsequent influenza vaccination in this group. Because patients with a history of GBS have an increased likelihood of again developing the syndrome, the chance of them coincidentally developing the syndrome following influenza vaccination may be higher than in individuals with no history of GBS.

Anxiety-related reactions, including vasovagal reactions (syncope), hyperventilation or stress related reactions can occur following, or even before, any vaccination as a psychogenic response to the needle injection. This can be accompanied by several neurological signs such as transient visual disturbance, paraesthesia and tonic-clonic limb movements during recovery. It is important that procedures are in place to avoid injury from faints.

### Effects on laboratory tests

Following influenza vaccination, false positive results in serology tests using the ELISA method to detect antibodies against HIV1, Hepatitis C and especially HTLV1 have been observed. The Western Blot technique disproves the results. The transient false positive reactions could be due to the IgM response by the vaccine.

## *4.5 Interaction with other medicines and other forms of interaction*

Influenza vaccine can impair the metabolism of warfarin, theophylline, phenytoin, phenobarbitone and carbamazepine by the hepatic P450 system. Results from studies have been variable in degree of interaction and time after vaccination for the interaction to take effect. The interaction may be idiosyncratic. Patients taking warfarin, theophylline, phenytoin, phenobarbitone, or carbamazepine should be advised of the possibility of an interaction and told to look out for signs of elevated levels of medication.

The immunological response may be diminished in patients taking immunosuppressant treatment.

Influvac should not be mixed with other vaccines in the same syringe. Influvac may be given at the same time as other vaccines. Immunisation should be carried out in separate limbs. Adverse reactions may be intensified.

## *4.6 Fertility, pregnancy and lactation*

### Pregnancy

Category B2.

No relevant animal data is available. There is no convincing evidence of risk to the foetus from immunisation of pregnant women using inactivated virus vaccines, bacterial vaccines, or toxoids. In pregnant high risk patients, the possible risks of clinical influenza infection should be weighed against the possible risks of vaccination.

There is evidence from a number of studies that pregnant women, particularly during the second and third trimester, are at increased risk of influenza associated complications. It is therefore recommended that all women who will be in the second or third trimester of pregnancy during the influenza season be vaccinated in advance, so they are protected during that season.

### Breast-feeding

No relevant animal data is available. There are no known contraindications to the use of Influvac by lactating women.

### Fertility

No fertility data are available.

## *4.7 Effects on ability to drive and use machines*

Influvac has no or negligible influence on the ability to drive and use machines.

## *4.8 Undesirable effects*

In clinical studies Influvac was administered to 1101 subjects. No serious adverse reactions attributable to vaccine administration were reported. Local and general symptoms were recorded for a period of 3 days following vaccination and reactions usually disappeared within 1-2 days without treatment.

During clinical studies, local and general signs and symptoms reported by the vaccinee were recorded.

The events are categorised by frequency according to the following definitions:

*Very common: (frequency ≥10%)*
*Common (frequency ≥1 and < 10%)*
*Uncommon (frequency ≥0.1% and < 1%)*
*Rare (frequency ≥0.01% and < 0.1%)*
*Very rare (frequency < 0.01%)*

**Local reactions** Very common: redness, swelling, pain.
Common: ecchymosis, induration.

**Body as a whole** Very common: headache.
Common: fever, malaise.
Uncommon: shivering, fatigue, sweating, myalgia, arthralgia.
Very rare: neuralgia, paraesthesia, convulsions, transient thrombocytopenia, allergic reactions (such as angioedema) leading to shock.

As with most biological products very rare post-vaccination neurological disorders such as encephalomyelitis, neuritis and Guillain-Barre syndrome (GBS) have been reported. Guillain-Barre syndrome (GBS) has been very rarely reported in temporal association with administration of influenza vaccines. In the 1976 swine influenza vaccination program, the US Public Health Advisory Committee on Immunization Procedures (ACIP) found that GBS occurred at an incidence of approximately 1 in 100,000 after immunisation and that the death rate in this 'series' was approximately 1 in 2,000,000. Such an excess incidence of GBS was not demonstrated in subsequent years when recipients of the 1978 or 1979 vaccines were studied. However, in 1998, ACIP reported that a study of the 1992-93 and 1993-94 seasons found an elevation in the overall relative risk for GBS which represents an excess of an estimated one to two cases of GBS per million persons vaccinated.

### Post-marketing Experience

Adverse reactions reported from post marketing surveillance are, next to the reactions which have also been observed during the clinical trials, the following:

#### *Blood and lymphatic system disorders*

Transient thrombocytopenia, transient lymphadenopathy

#### *Immune system disorders*

Allergic reactions, in rare cases leading to shock, angioedema

#### *Nervous system disorders*

Neuralgia, paraesthesia, febrile convulsions, neurological disorders, such as encephalomyelitis, neuritis and Guillain Barre syndrome.

***Vascular disorders***

Vasculitis associated in very rare cases with transient renal involvement.

***Skin and subcutaneous tissue disorders***

Generalised skin reactions including pruritus, urticaria or non-specific rash.

Reporting of suspected adverse reactions - Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions https://nzphvc.otago.ac.nz/reporting/.

### *4.9 Overdose*

Given the nature of the product and mode of administration the probability of overdosage is negligible.

For further advice on management of overdose please contact the National Poisons Information Centre (0800 POISON or 0800 764 766).

## 5. Pharmacological Properties

### *5.1 Pharmacodynamic properties*

Pharmacotherapeutic group: Influenza vaccine, ATC Code: J07BB02.

**Mechanism of action**

The vaccine stimulates production of antibodies with a specific capacity against influenza. Protection is only against those strains of the virus from which the vaccine is prepared or closely related strains.

**Pharmacodynamic effects**

Seroprotection is obtained within 2-3 weeks. The duration of post-vaccination immunity varies, between 6-12 months.

### *5.2 Pharmacokinetic properties*

Not applicable.

### *5.3 Preclinical safety data*

**Carcinogenesis and mutagenesis**

Animal studies have not been conducted and therefore the effects of vaccination are unknown.

## 6. Pharmaceutical Particulars

### *6.1 List of excipients*

Each 0.5 mL dose contains 0.10 mg potassium chloride, 0.10 mg monobasic potassium phosphate, 0.5 mg dibasic sodium phosphate, 4.0 mg sodium chloride, 0.067 mg calcium chloride dihydrate, 0.05 mg magnesium chloride hexahydrate and q.s. to 0.5 mL water for injections.

Each 0.5 mL may also contain not more than 100 ng ovalbumin, 0.01 mg formaldehyde, 15 microgram cetrimonium bromide, 1 mg sodium citrate, 0.2 mg sucrose, 1 ng gentamicin sulfate,

traces of tylosine tartrate, hydrocortisone and polysorbate 80 which are used during the manufacturing process.

### *6.2 Incompatibilities*

In the absence of compatibility studies, this medicine must not be mixed with other medicines.

### *6.3 Shelf life*

1 year

### *6.4 Special precautions for storage*

Keep out of the sight and reach of children.

Store between 2 and 8℃. Refrigerate, do not freez e.

Store in the original package in order to protect from light.

### *6.5 Nature and contents of container*

Single-dose 0.5 mL prefilled glass syringe, 1's and 10's.

- without needle
- with 16 mm needle
- with 25 mm needle

Not all presentations and pack sizes may be marketed.

### *6.6 Special precautions for disposal and other handling*

Influvac should be allowed to reach room temperature and shaken well before use.

## 7. Medicines Schedule

Prescription Medicine

## 8. Sponsor Details

Mylan New Zealand Ltd
PO Box 11183
Ellerslie
AUCKLAND
Telephone 09-579-2792

## 9. Date of First Approval

Date of publication in the New Zealand Gazette of consent to distribute the medicine: 10 March 2005

## 10. Date of Revision of the Text

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| 17 July 2017 | Revised to SmPC format, added residues from manufacturing process to sections 2 and 6.1, added quantities to 6.1, editorial revisions to section 6.5, sponsor changed to Mylan NZ. |