No-Waste™ Freund’s Incomplete Adjuvant

(Cat. # 786-098, 786-099)
INTRODUCTION

Our No-Waste™ format adjuvant minimizes waste and risk of cross contamination. Small dose packaging allows researchers to assign a vial per project or animal without concerns for excessive documentation and monitoring. Researchers do not have the burden of storing large amounts of unused adjuvant.

Freund’s Incomplete Adjuvant (FIA): Freund’s Incomplete Adjuvant is used in enhancing immune response and is used as water in oil emulsion with antigen for secondary and booster injections to raise polyclonal and monoclonal antibodies

Freund’s Incomplete Adjuvant lacks the heat-killed mycobacteria present in Freund’s Complete Adjuvant. Freund’s Incomplete Adjuvant comprise of non-metabolizable oil, paraffin and the surfactant mannide monooleate. The mineral oil used in Freund’s Adjuvant has depot effect on antigen as it is retained and released slowly at the site of injection and thus provide continuous access of antigen to immune system to raise antibodies. Retention of antigen also helps in presentation of antigen to antigen presenting cells, macrophages and dendritic cells and thus promoting cell mediated immune response. Mineral oil also act as a vehicle to transport antigen in lymphatic system.

Freund’s Incomplete adjuvant is used along with Freund’s Complete Adjuvant to raise polyclonal and /or monoclonal antibodies. Freund’s Complete Adjuvant is used in primary immunization where as Freund’s Incomplete adjuvant is used in secondary and booster injections. Freund’s Incomplete adjuvant has less side affects compare to Freund’s Complete Adjuvant. Freund’s Complete Adjuvant form granulomas which may result in inflammation and lesions.

Freund’s Incomplete Adjuvant can be used for primary immunization if the antigen is strongly immunogenic

Route of antigen administration needs to be carefully determined when adjuvants are used. Preferred mode is subcutaneous. Adjuvants are not used for intravenous injections as it can result in anaphylaxis
ITEM(S) SUPPLIED

<table>
<thead>
<tr>
<th>Cat. #</th>
<th>Description</th>
<th>Size</th>
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</thead>
<tbody>
<tr>
<td>786-098</td>
<td>No-Waste™ Freund’s Incomplete Adjuvant</td>
<td>2 ml</td>
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<tr>
<td>786-099</td>
<td>No-Waste™ Freund’s Incomplete Adjuvant</td>
<td>5 x 2 ml</td>
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STORAGE CONDITIONS
It is shipped at ambient temperature. Upon arrival, store at 4°C. If aseptic techniques are used for handling Freund’s Incomplete Adjuvant and it is stored at right temperature, it is stable for up to 1 year. Do not freeze Freund’s Incomplete Adjuvant.

ADDITIONAL ITEMS REQUIRED
- Freund’s Complete Adjuvant (Cat. #786-709) for primary immunization
- Desired antigen either coupled to carrier protein or used as it is

PROTOCOL
Preparation of antigen-adjuvant emulsion for injections:

1. Mix equal volumes of desired antigen/immunogen and adjuvant solution under sterile conditions. The final antigen concentration in range of 33-50 µg/ml is normally adequate for immunizing mice, rats and rabbits.

2. The antigen-adjuvant emulsion can be prepared by forcing the antigen-adjuvant mixture through a small orifice. A double-hub needle connected to two syringes and designed with the purpose of mixing two liquids of different viscosity is suitable for making the adjuvant-antigen emulsion. Push the antigen-adjuvant mixture back and forth between the syringes for about 10-15 minutes till a thick white emulsion appears. Check the emulsion by placing a drop of it on the surface of water or saline. The emulsion is ready to use if the drop does not disperse in water. If it disperses in water then continue mixing till the drop of emulsion does not disperse in water.

3. Other methods for emulsion preparation like using vortex, homogenizer etc can be employed depending upon the amount required and convenience.

4. Before injecting animals, one need to take care that there are no bubbles in the prepared emulsion.
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