

# Magic™ Mouse Adjuvant

(Prod. No.: CDN-A001)

CpG ODN - TLR9-based adjuvant.  
For research use only.

## INTRODUCTION

**Magic™ Mouse Adjuvant** is a novel immunization adjuvant specifically designed for rapid production of high titers of antibodies in mice. The adjuvant contains immune-stimulatory CpG DNA — short oligonucleotides that contain unmethylated cytosine-guanine dinucleotides within a certain base context. The mammalian immune system has evolved to recognize these sequences, which are found naturally in bacterial DNA, as a sign of infection. Exposure to CpG DNA results in very rapid and strong immune activation, and, when applied with an antigen, CpG DNA produces high titers of antigen-specific antibodies. Different CpG DNA sequences activate the immune systems of different animal species. Magic™ Mouse Adjuvant contains a proprietary DNA sequence that is specifically designed for immunization of mice.

Among all research adjuvants and vaccine adjuvants available in the market, Magic™ Mouse Adjuvant by far is the most efficient mouse adjuvant for all types of immunogens tested, in terms of its rapidness in raising immune responses and the antibody titers it produces. Of note, this adjuvant does not yield comparable titers in other species including other types of rodents.

Importantly, by avoiding making water-in-oil emulsions, heating, sonification, lyophilization, or homogenization in immunogen preparation, which destroys the native conformation of the immunogen, this adjuvant allows production of antibodies against conformational epitopes on native antigens.

## KIT CONTENTS

1.0 mL **Magic™ Mouse Adjuvant**, sufficient for immunization (priming and two boosts) of up to 10 mice.

## KEY FEATURES

**Highly effective** — rapid production of high titers of antibodies. Only 2 immunizations are necessary.

**Safe** — non-toxic adjuvant with no adverse side effects to animals.

**Immunogen- and adjuvant-sparing** — much less immunogen required than with conventional methods.

**Time-saving** — strong immune responses can be reached within 35 days after immunization.

**Extremely valuable** — in producing antibodies against conformational epitopes.

## STORAGE AND STABILITY

Magic™ Mouse Adjuvant is supplied as a ready-to-use solution and is shipped at ambient temperature. Upon arrival, it should be stored at 2-8° C. The adjuvant is stable for up to 1 year at 2-8° C.

## IMMUNIZATION PROTOCOL

1. The protocol is divided into two parts: priming and boosting. Boosting is required to recover activated B cells in order to make hybridomas for monoclonal antibody production. Boosting will raise the antibody titer 10–100 fold, even for strong immunogens.
2. Calculate the total amount of immunogen required; dilute the immunogen with PBS or another animal compatible buffer to 2 fold of its final concentration in immunogen adjuvant mix. Recommended immunogen dosage is 1-50 µg per injection for weak immunogens such as recombinant homologous proteins and conjugated peptides (usually 5-10 µg per injection) and 0.1-10 µg per injection for highly immunogenic immunogens such as inactivated viruses or recombinant viral proteins (usually 1-2 µg per injection).
3. **Mix Magic™ Mouse Adjuvant in the vial by gentle vortexing before use. Mix the Adjuvant with the immunogen at 1:1 ratio (V/V) by gently pipetting up and down 5 times.** The total volume of immunogen adjuvant mix used per mouse is 50–100 µL. **Immunogen adjuvant mixes should be freshly prepared before injection and used immediately.**
4. Inject 100 µL of the immunogen/adjuvant mix into a quadriceps muscle of each mouse. Subcutaneous or intradermal injection is also compatible with **Magic™ Mouse Adjuvant** and will yield the same results as intramuscular injection. It is normal to see precipitation in the adjuvant or immunogen/adjuvant mix. Please mix well before drawing into syringe and inject as quickly as possible after drawing into syringe.
5. Boost animals 3 weeks after the first immunization, following steps 1-3 of the priming protocol above.
6. The serum titer peaks around 35 days after prime immunization. Bleed from tail tips 2 weeks after the first boost and measure the antibody titers by ELISA. ELISA titers should be in the range of 1:10,000-1:10,000,000.
7. On very rare occasions, if the antibody titer is lower than required, please boost animals once again on day 42 post-priming.
8. This protocol describes boosting 3 weeks after the first (prime) immunization; however, boosting can be performed up to 8 weeks after the prime immunization. For hybridoma production, the first boost [on day 21] can serve as the pre-fusion boost and hybridoma preparation should follow 3 days later. However, a second boost on day 42 may further increase antibody titers and the number of positive hybridoma clones.

## REFERENCES

- Bernardo L, Denomme G A, Shah K, et al. RhD Specific Antibodies Are Not Detectable in HLA-DRB1 Mice Challenged with Human RhD Positive Erythrocytes[J]. Advances in hematology, 2014, 2014.
- Ferreira V P, Vale V F, Pangburn M K, et al. SALO, a novel classical pathway complement inhibitor from saliva of the sand fly Lutzomyia longipalpis[J]. Scientific reports, 2016, 6.
- Palomo C, Mas V, Thom M, et al. Influence of Respiratory Syncytial Virus F Glycoprotein Conformation on Induction of Protective Immune Responses[J]. Journal of virology, 2016, 90(11): 5485-5498.
- Olga A B, Tavares D, Setiady J, et al. Antibodies and Assays for Detection of Folate Receptor 1: U.S. Patent Application 14/473,828[P]. 2014-8-29.

## RELATED PRODUCTS

Product Name	Description	Catalog Code
<b>Antibody Production</b>		
Magic™ Hybridoma Growth Factor	<ul style="list-style-type: none"> <li>• Increase cloning efficiency and cell survival rate</li> <li>• Culturing hybridoma cells with better antibody secretion and production</li> </ul>	CDN-SF1
Serum-free cell freezing medium (SFM)	<ul style="list-style-type: none"> <li>• Simple freezing protocol</li> <li>• Effective maintenance of cell viability, adhesion, and bioactivity</li> </ul>	SF-CFM-01CL
<b>Antibody Purification</b>		
Absolute Mag™ Protein A Magnetic Particles	Rapid and simple purification of IgG using magnetic agrose with high binding capacities.	WHM-L086
<b>Antibody Isotyping</b>		
RapidGet™ Mouse Monoclonal Antibody Isotyping Kit	Quickly determine mouse monoclonal antibody class and subclass (IgG1, IgG2a, IgG2b, IgG3, IgA, IgM, K, λ)	CDXPH001 CDXPH002
RapidGet™ Rat Immunoglobulin Isotyping Kit	5 minute determination of 6 Rat Ig heavy chain isotypes and 2 light chain subclasses: IgG1, IgG2a, IgG2b, IgG2c, IgA, IgM, kappa, and lambda.	CDXPH004