UCSF Office of Research
Institutional Animal
Care and Use Program

Immunization to Determine Immune Status and Antibody Production in Mice

IACUC Standard Procedure
Effective Date: August 2022

Description of procedure:

Mice are injected intraperitoneally or subcutaneously once with protein or peptide antigens in adjuvant as described in your protocol. Mice are injected IP or SC with the antigen/adjuvant precipitate (e.g. 1-100 ug protein in 5-10% alum or other suitable adjuvant) in 100-200 uL sterile saline. If given subcutaneously, no more than 50 uL will be injected per site.

The purpose of this procedure is to monitor antibody production in response to the foreign antigens. 50-100 uL of blood will be collected at various time points per UCSF blood collection guidelines as specified in the protocol (sub-mandibular blood collection is preferred) to establish the change in antibody titer. The mice are typically euthanized at the end of the 14-day period per the UCSF Policy on Euthanasia, however they may be kept alive for a longer period to study long-term immunity. In this situation, animals are re-immunized after 4-6 weeks and then bled several days after the booster immunization to monitor secondary or memory antibody response. Complete Freund's adjuvant is only used for primary immunization.

The protocol must identify:

- The antigen and adjuvant to be used
- The time points for blood collection
- If secondary immunization will be performed
- The endpoint of the experiment

Agents:
This procedure requires antigen, adjuvant and may warrant anesthesia. All agents administered to animals should be listed in the "Agents" section of the RIO IACUC protocol.

Adverse Effects:
Adverse effects should be listed in the "Adverse Effects" section of the RIO IACUC protocol.

Examples of potential adverse effects include: Skin irritation or ulceration