

Protocol #1005

Preparation of Targestar[®]-P for Administration by Bolus Injection

v. 2.1

Materials Needed

1. Targestar[™]-P ultrasound contrast agents (TS-108)
2. Sterile 0.5 or 1.0 mL syringe with attached 28 G needle
3. Targestar buffer or sterile saline for dilution

Summary

Targestar[™]-P is an ultrasound contrast agent useful for vascular imaging and quantitation of blood flow. Targestar-P is intended for use in small animal models of disease. Agents may be administered as an intravenous bolus injection for routine contrast ultrasound imaging, or as a continuous venous infusion for sensitive perfusion measurements. Bolus administration can be accomplished via retro-orbital, tail vein, or jugular injection in mice.

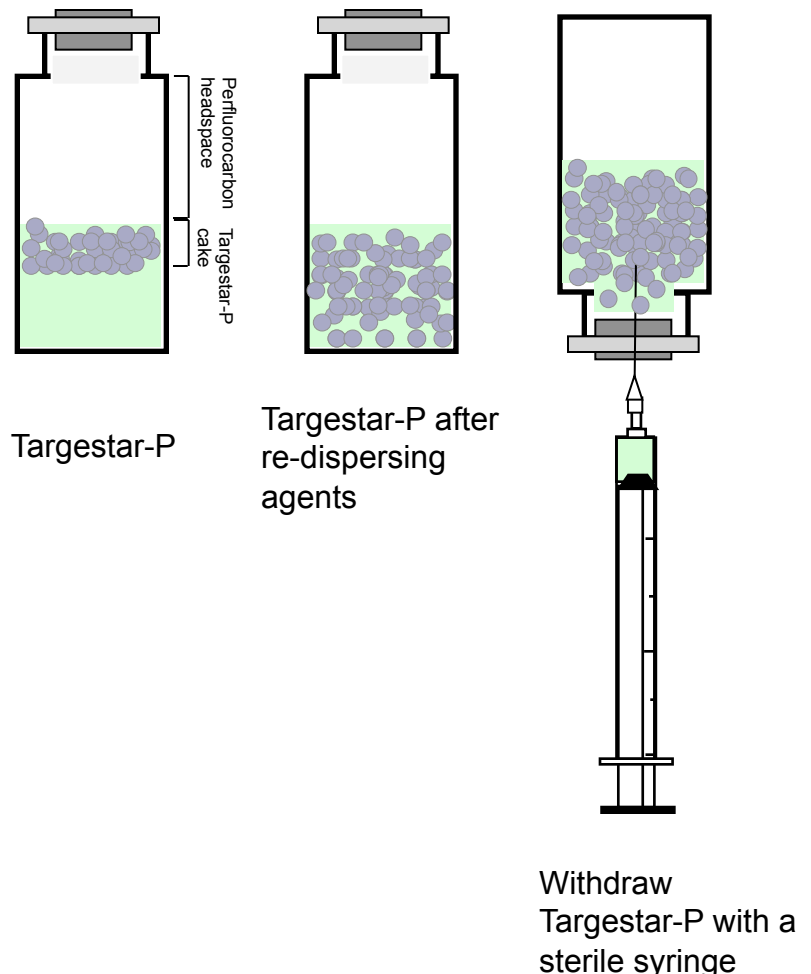
1. Disperse the Targestar-P agents by gently shaking the vial end-to-end for 10 seconds. The dispersion should appear uniformly opaque.

2. Remove and discard the center of the aluminum crimp. Carefully insert a sterile 28-G syringe needle through the elastomeric septum, and withdraw the desired volume of Targestar-P. Do not open the Targestar-P vial.

3. For removing large volumes (> 0.1 mL), a 27 G venting needle may be inserted through the septum to aid in withdrawal.

4. After sampling the vial, remove the venting needle and store vial upright at 4-8 degrees C.

5. Although dilution is not necessary, Targestar-P agents may be diluted with saline or equivalent buffer immediately prior to administration.



Withdraw
Targestar-P with a
sterile syringe

Dosage and Administration

Optimal dosage of Targestar-P depends upon the tissue to be imaged, route of administration, and scanner settings. Dose optimization should be performed for each application. In mice (25 g), a dose of 30 uL administered by jugular or retro-orbital injection generally results in sufficient contrast enhancement for most tissues, including subcutaneous tumors. Higher doses may be required for administration via tail vein. Slightly higher doses are generally required for ultra-high frequency (>20 MHz) imaging.

For continuous infusion, Targestar-P may be diluted 1:10 with Targestar Buffer or sterile saline. The optimal infusion rate depends upon the tissue to be imaged and concentration of contrast; a rate of 50 uL per min is generally adequate for most applications. Note that agitation of the syringe pump may be necessary to maintain a homogeneous dispersion of microbubbles during infusion.

Contrast imaging settings (such as pulse inversion, sub-harmonic filtering, or CPS) should be enabled on the ultrasound scanner for optimal contrast sensitivity. Agents remain acoustically active *in vivo* for 5-15 minutes, depending on the administered dose and scanner settings. Please contact Targeson technical support for protocol assistance.

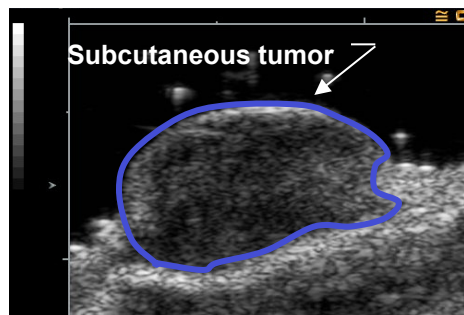
Precautions

Targestar-P should appear as a milky white dispersion after re-dispersion by gentle shaking. Do not use if liquid in vial appears clear, as this indicates that the contrast agents have been damaged or destroyed. Unused portions of Targestar-P may be stored at 4-8 degrees C for up to 3 months after first use. Targestar-P does not contain preservatives or bacteriostatic agents. Do not freeze.

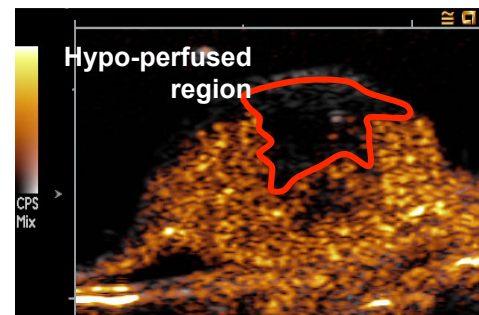
Examples

Imaging blood flow in a mouse model of cancer.

Orthotopic bladder cancer tumor (MB-49) implanted subcutaneously on mouse flank, imaged at day 7. Perfusion imaging using Targestar-P reveals hypo-perfused region (outlined in red) at tumor core. Imaged at 14 MHz using CPS, MI=0.25 on Siemens Sequoia™.



B-mode image



Contrast Image (t=15s)

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS. Targeson makes no representations and extends no warranties of any kind, and expressly disclaims all implied warranties of merchantability and of fitness for a particular purpose or use. Targeson disclaims all warranties of noninfringement with respect to any third party rights and title, including patent rights, in the materials. Use of this product is governed by the Targeson terms and conditions agreement, available at www.targeson.com. Targestar® and Visistar® are registered trademarks of Targeson Inc.



Targeson, Inc
3550 General Atomics Ct
MS 02 - 606
San Diego, CA 92121

Tel: (877) 290-4043
Fax: (877) 401-7805
products@targeson.com
www.targeson.com