



EasySep™ Mouse Pan-Naïve T Cell Isolation Kit

Negative Selection

Catalog #19848

For processing 1 x 10⁹ cells



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

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Description

Isolate untouched and highly purified pan-naïve T cells (CD3+CD44^{low}CD62L^{high}) from mouse splenocytes by immunomagnetic negative selection. When using single-cell suspensions from other tissue types, this kit may require optimization.

- Fast and easy-to-use
- Up to 97% purity
- No columns required
- Untouched, viable cells

This kit targets non-pan-naïve T cells for removal with biotinylated antibodies recognizing specific cell surface markers. Unwanted cells are labeled with biotinylated antibodies and streptavidin-coated magnetic particles, and separated without columns using an EasySep™ magnet. Desired cells are simply poured off into a new tube. Isolated cells are immediately available for downstream applications such as flow cytometry, culture or cell-based assays.

Component Descriptions

COMPONENT NAME	COMPONENT #	QUANTITY	STORAGE	SHELF LIFE	FORMAT
EasySep™ Mouse T Cell Isolation Cocktail	19851C.1	1 x 0.5 mL	Store at 2 - 8°C. Do not freeze.	Stable until expiry date (EXP) on label.	A combination of monoclonal antibodies in PBS and 0.1% BSA.
EasySep™ Mouse Memory T Cell Depletion Cocktail	18766C	1 x 0.5 mL	Store at 2 - 8°C. Do not freeze.	Stable until expiry date (EXP) on label.	A combination of monoclonal antibodies in PBS and 0.1% BSA.
EasySep™ Streptavidin RapidSpheres™ 50001	50001	1 x 1 mL	Store at 2 - 8°C. Do not freeze.	Stable until expiry date (EXP) on label.	A suspension of magnetic particles in PBS.
Normal Rat Serum	13551	1 x 2 mL	Store at -20°C	Stable until expiry date (EXP) on label.	Mycoplasma-free normal rat serum.

BSA - bovine serum albumin; PBS - phosphate-buffered saline

Components may be shipped at room temperature (15 - 25°C) but should be stored as indicated above.

Additional Reagent Stability Information

REAGENT NAME	STORAGE	SHELF LIFE
Normal Rat Serum (in-use)	Store at 2 - 8°C.	Stable for at least 2 months. Do not exceed expiry date (EXP) on label.

Sample Preparation

SPLEEN

Disrupt spleen in PBS (Catalog #37350) or Hanks' Balanced Salt Solution (HBSS; Catalog #37250) containing 2% fetal bovine serum (FBS). Remove clumps and debris by passing cell suspension through a 70 µm mesh nylon strainer. Centrifuge at 300 x g for 10 minutes and resuspend at 1 x 10⁸ nucleated cells/mL in recommended medium.

Ammonium chloride treatment is not recommended when preparing the cells for separation.



Recommended Medium

EasySep™ Buffer (Catalog #20144), RoboSep™ Buffer (Catalog #20104), or PBS containing 2% FBS and 1 mM EDTA. HBSS, Modified (without Ca⁺⁺ and Mg⁺⁺) can be used in place of PBS. Medium should be free of Ca⁺⁺, Mg⁺⁺, and biotin.

Directions for Use – Manual EasySep™ Protocols

See page 1 for Sample Preparation and Recommended Medium. Refer to Tables 1 and 2 for detailed instructions regarding the EasySep™ procedure for each magnet.



Table 1. EasySep™ Mouse Pan-Naïve T Cell Isolation Kit Protocol

		EASYSEP™ MAGNETS	
STEP	INSTRUCTIONS	 EasySep™ (Catalog #18000)	“The Big Easy” (Catalog #18001) 
1	Prepare sample at the indicated cell concentration within the volume range.	1 x 10 ⁸ cells/mL 0.1 - 2 mL	1 x 10 ⁸ cells/mL 0.25 - 8 mL
2	Add Rat Serum to sample.	50 µL/mL of sample	50 µL/mL of sample
3	Add sample to required tube.	5 mL (12 x 75 mm) polystyrene round-bottom tube (e.g. Corning Catalog #352058)	14 mL (17 x 100 mm) polystyrene round-bottom tube (e.g. Corning Catalog #352057)
3	Add Isolation Cocktail to sample.	50 µL/mL of sample	50 µL/mL of sample
	Mix and incubate.	RT for 7.5 minutes	RT for 7.5 minutes
4	Add Depletion Cocktail to sample.	50 µL/mL of sample	50 µL/mL of sample
	Mix and incubate.	RT for 2.5 minutes	RT for 2.5 minutes
5	Vortex RapidSpheres™.	30 seconds	30 seconds
6	Add RapidSpheres™ to sample.	75 µL/mL of sample	75 µL/mL of sample
	Mix and incubate.	RT for 2.5 minutes	RT for 2.5 minutes
7	Add recommended medium to top up the sample to the indicated volume. Mix by gently pipetting up and down 2 - 3 times.	Top up to 2.5 mL	<ul style="list-style-type: none"> • Top up to 5 mL for samples < 4 mL • Top up to 10 mL for samples ≥ 4 mL
	Place the tube (without lid) into the magnet and incubate.	RT for 2.5 minutes	RT for 2.5 minutes
8	Pick up the magnet, and in one continuous motion invert the magnet and tube,* pouring off the enriched cell suspension into a new tube.	Isolated cells are ready for use	Isolated cells are ready for use

RT - room temperature (15 - 25°C)

* Leave the magnet and tube inverted for 2 - 3 seconds, then return upright. Do not shake or blot off any drops that may remain hanging from the mouth of the tube.

Table 2. EasySep™ Mouse Pan-Naïve T Cell Isolation Kit Protocol

		EASYSEP™ MAGNETS		
STEP	INSTRUCTIONS	 EasyPlate™ (Catalog #18102)	EasyEights™ (Catalog #18103) 	
			5 mL tube	14 mL tube
1	Prepare sample at the indicated cell concentration within the volume range.	1 x 10 ⁸ cells/mL 0.05 - 0.2 mL	1 x 10 ⁸ cells/mL 0.2 - 2 mL	1 x 10 ⁸ cells/mL 0.2 - 8 mL
2	Add Rat Serum to sample.	50 µL/mL of sample	50 µL/mL of sample	50 µL/mL of sample
3	Add sample to required tube (or plate when using the EasyPlate™ EasySep™ Magnet).	Round bottom, non-tissue culture-treated 96-well plate (e.g. Costar Catalog #3788)	5 mL (12 x 75 mm) polystyrene round-bottom tube (e.g. Corning Catalog #352058)	14 mL (17 x 100 mm) polystyrene round-bottom tube (e.g. Corning Catalog #352057)
4	Add Isolation Cocktail to sample.	50 µL/mL of sample	50 µL/mL of sample	50 µL/mL of sample
	Mix and incubate.	RT for 7.5 minutes	RT for 7.5 minutes	RT for 7.5 minutes
5	Add Depletion Cocktail to sample.	50 µL/mL of sample	50 µL/mL of sample	50 µL/mL of sample
	Mix and incubate.	RT for 2.5 minutes	RT for 2.5 minutes	RT for 2.5 minutes
6	Vortex RapidSpheres™.	30 seconds	30 seconds	30 seconds
7	Add RapidSpheres™ to sample.	75 µL/mL of sample	75 µL/mL of sample	75 µL/mL of sample
	Mix and incubate.	RT for 2.5 minutes	RT for 2.5 minutes	RT for 2.5 minutes
8	Add recommended medium to top up sample to the indicated volume. Mix by gently pipetting up and down 2 - 3 times.	Top up to 0.25 mL	Top up to 2.5 mL	<ul style="list-style-type: none"> • Top up to 5 mL for samples < 4 mL • Top up to 10 mL for samples ≥ 4 mL
	Place the tube or plate (without lid) into the magnet and incubate.	RT for 2.5 minutes	RT for 2.5 minutes	RT for 2.5 minutes
9	Carefully pipette (do not pour) the enriched cell suspension into a new tube or plate.	Isolated cells are ready for use	Use a new 5 mL tube	Use a new 14 mL tube
10	Remove the tube from the magnet and place the new tube (without lid) into the magnet and incubate for a second round of separation.	---	RT for 2.5 minutes	RT for 2.5 minutes
11	Carefully pipette** (do not pour) the enriched cell suspension into a new tube.	---	Isolated cells are ready for use	Isolated cells are ready for use


RT - room temperature (15 - 25°C)

** Collect the entire supernatant, all at once, into a single pipette (e.g. for the EasyEights™ 5 mL tube use a 2 mL serological pipette and for the EasyEights™ 14 mL tube use a 10 mL serological pipette).

Directions for Use – Fully Automated RoboSep™ Protocol

See page 1 for Sample Preparation and Recommended Medium. Refer to Table 3 for detailed instructions regarding the RoboSep™ procedure.

Table 3. RoboSep™ Mouse Pan-Naïve T Cell Isolation Kit Protocol

STEP	INSTRUCTIONS	RoboSep™ (Catalog #20000 and #21000)	
1	Prepare sample at the indicated cell concentration within the volume range.*	1 x 10 ⁸ cells/mL 1 - 8 mL	
2	Add Normal Rat Serum to sample.	50 µL/mL of sample	
3	Add sample to required tube.	14 mL (17 x 100 mm) polystyrene round-bottom tube (e.g. Corning Catalog #352057)	
4	Select protocol.	Mouse Pan-Naïve T Cell Isolation 19848 (19851/18766)	
5	Vortex RapidSpheres™.	30 seconds	
6	Load the carousel.	Follow on-screen prompts	
	Start the protocol.	Press the green "Run" button	
7	Unload the carousel when the run is complete.	Isolated cells are now ready for use	

* For start sample volumes between 0.5 - < 1 mL, resuspend the cells to a final volume of 1 mL in recommended medium.

Notes and Tips

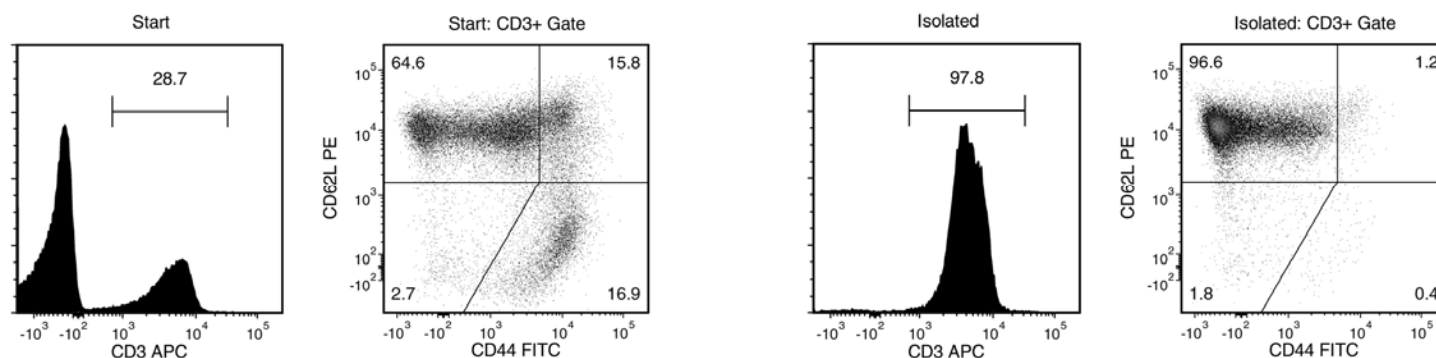
ASSESSING PURITY

For purity assessment of pan-naïve T cells (CD3+CD44^{low}CD62L^{high}) by flow cytometry use fluorochrome-conjugated:

- Anti-Mouse CD3e Antibody, Clone 145-2C11 (Catalog #60015), and
- Anti-mouse CD44 antibody, clone 5035-41.1D, and
- Anti-Mouse CD62L (L-Selectin) Antibody, Clone MEL-14 (Catalog #60109)

The anti-mouse CD44 antibody, clone 5035-41.1D only recognizes the Ly-24.2 isoform which is expressed by C57BL/6, C57BL/10, C57/L, C58A, AKR, 129, SJL, NZB, C3H, CE, CBA/H mouse strains.

Data



Starting with mouse splenocytes from an uninfected mouse, the pan-naïve T cell (CD3+CD44^{low}CD62L^{high}) content of the isolated fraction is typically ranges from 90 - 97%. In the above example, the purities of the start and final isolated fractions are 18.5% and 94.5%, respectively.

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