

ANTIBODY TESTING REPORT

SUMMARY

Antigen: CD4 (Uniprot# P01730)

Method tested: Flow Cytometry

Laboratory ID: LAB07

Project ID: AR122

BACKGROUND

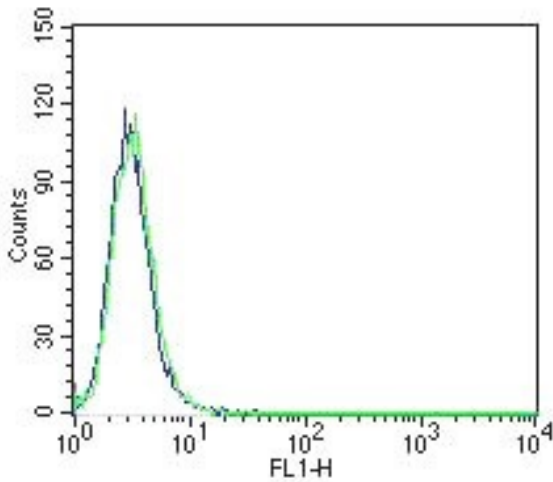
With thousands of proteins and often hundreds of associated antibodies, the selection of a specific antibody can be both time-consuming and expensive. Antibody Resource is spearheading a unique initiative designed to compare antibodies from numerous suppliers using identical samples/tissues and an identical protocol. In doing so, we hope to enable scientists to form an unrivalled opinion of which is the most suitable antibody for their research and in particular, which is going to require the least amount of optimisation, a process which can often take weeks or months.

For the purposes of the antibody comparison initiative, we select the best antibodies from each manufacturer and then compare them side-by-side using the same experimental conditions to provide a direct comparison. The antibodies are collected centrally, repackaged and given an internal reference ID prior to delivery to independent laboratories to ensure objective testing and to minimise bias.

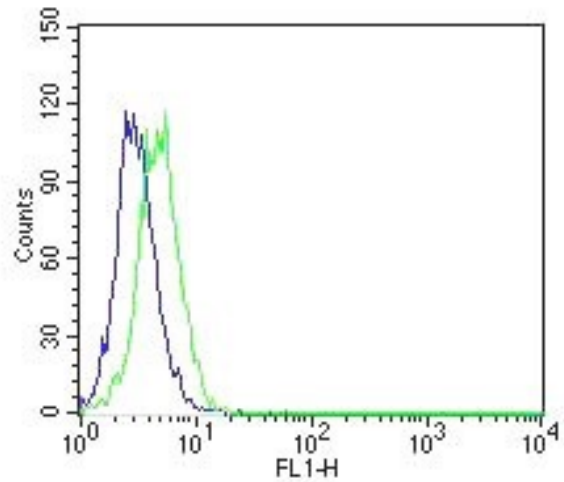
Disclaimers: There is a possibility that results may vary between antibody lots. The results are indicative of the experimental conditions described within. Variations to this protocol may give alternative results.

RESULTS

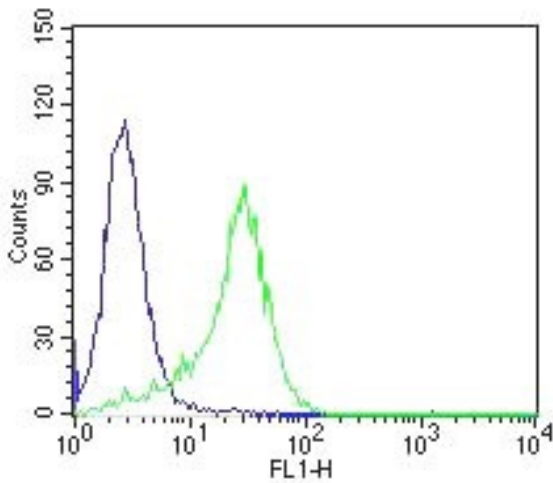
Flow cytometric analysis of paraformaldehyde fixed, THP-1 cells (Human monocytic leukaemia cells) using various anti-CD4 antibodies (green) and isotype controls (blue) (see Method section for more detail).



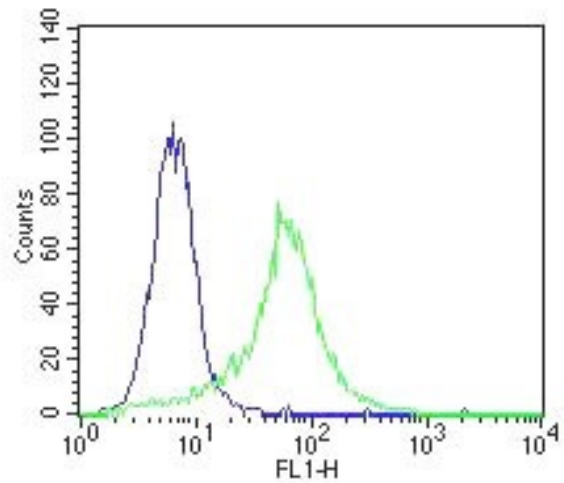
Antibody : CD4 M56 (green)
Isotype control : Mouse IgG1 (blue)



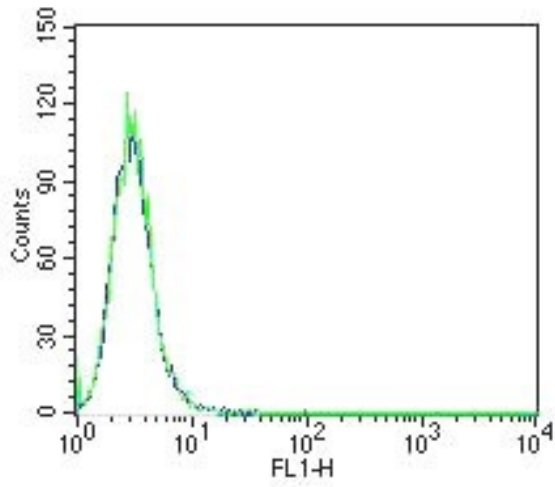
Antibody : CD4 M57 (green)
Isotype control : Mouse IgG2b (blue)



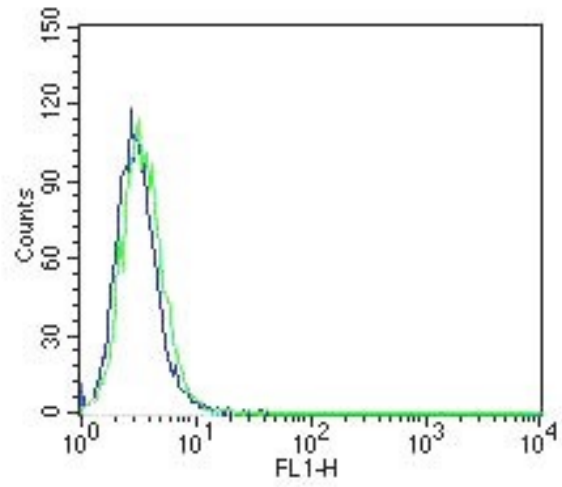
Antibody : CD4 M58 (green)
Isotype control : Mouse IgG (blue)



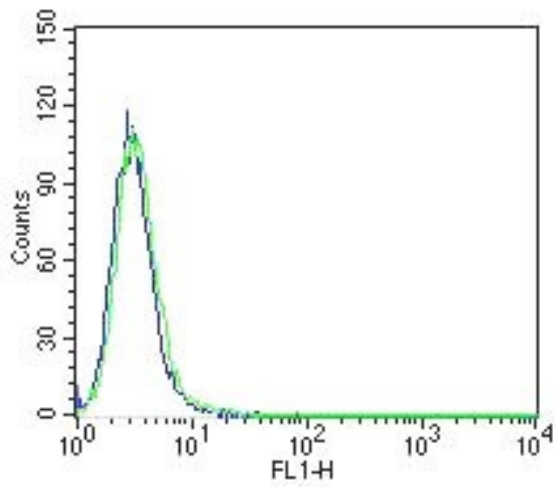
Antibody : CD4 P59 (green)
Isotype control : Goat IgG (blue)



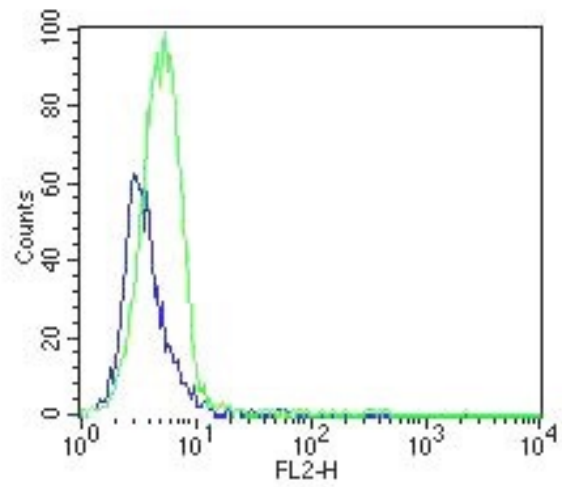
Antibody : CD4 M59 (green)
Isotype control : Mouse IgG1 (blue)



Antibody : CD4 M60 (green)
Isotype control : Mouse IgG1 (blue)



Antibody : CD4 M61 (green)
Isotype control : Mouse IgG1 (blue)





Antibody : CD4 M100 (green)
Isotype control : Mouse IgG1 (blue)

METHOD

Antibodies

	Primary antibody	Secondary antibody	Isotype Control
	CD4 M56 at 1/1000 (Supplier 15)	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG1 Isotype Control (Thermo Scientific, MA5-14453) at 1/1000
	CD4 M57 at 1/1000 (Supplier 29)	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG2b Isotype Control (Thermo Scientific, MA5-14447) at 1/1000
	<u>CD4 M58 at 1/1000 (St John's Laboratory)</u>	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG Isotype Control (Thermo Scientific, 10400C) at 1/1000
	CD4 P59 at 1/1000 (Acris)	Alexa Fluor® 488 AffiniPure Bovine Anti-Goat IgG (H+L) (Jackson ImmunoResearch, 805-545-180) at 1/200	Goat IgG Isotype Control (Thermo Scientific, 02-6202) at 1/1000
	CD4 M59 at 1/4000 (Supplier 22)	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG1 Isotype Control (Thermo Scientific, MA5-14453) at 1/4000
	CD4 M60 at 1/1000 (Supplier 11)	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG1 Isotype Control (Thermo Scientific, MA5-14453) at 1/1000

	CD4 M61 at 1/4000 (Supplier 16)	Goat anti-Mouse IgG (H +L) Cross Adsorbed Secondary Antibody, DyLight 488 conjugate (Thermo Scientific, 35503) at 1/200	Mouse IgG1 Isotype Control (Thermo Scientific, MA5-14453) at 1/4000
	CD4 M100 at 20µl/test (BD Biosciences)	Not required as primary conjugated to PE	Mouse IgG1 Isotype Control (Thermo Scientific, MA5-14453) at 20µl/test followed by R-Phycoerythrin AffiniPure Goat Anti-Mouse IgG (Jackson ImmunoResearch, 115-115-164) at 1/200

 = Component of the CD4 Superstarter Antibody Panel. See end of report for details.

PROTOCOL

Flow Cytometry was performed using a BD FACSCalibur™ platform. Cells were prepared prior to analysis as follows:-

1. Cells, grown in petri dishes, were suspended in cell culture medium, transferred to a 1.5 ml EP tube and the cell concentration adjusted to between 1 and 5 x 10⁶ cells/ml.
2. Following centrifugation at 1700 rpm for 5 minutes and after removal of the supernatant, the cell pellet was washed by adding 8 ml PBS and gentle vortexing. The cell suspension was then centrifuged at 1700 rpm for 5 minutes and the supernatant removed.
3. The cells were fixed in 2% paraformaldehyde by adding 6ml of the paraformaldehyde solution for 10 minutes at room temperature. The cells were then centrifuged and washed as described in step 2.
4. Penetration of the cells was performed by adding 6 ml of precooled methanol, gentle vortexing and incubation for 10 minutes at -20°C. NB. If extracellular staining was required, this step was omitted.
5. Following washing with PBS as described above in step 2, a blocking step was performed by adding 1 ml of 2% BSA in PBS to the cell pellet for 30 minutes at room temperature.
6. The resulting cell suspension was then aliquotted into prelabelled tubes so that 1 ml of cell suspension was available for each of the antibodies or controls to be tested. Following centrifugation of the cell suspension aliquots at 1700 rpm for 5 minutes and removal of each supernatant, the cell pellets were incubated with 0.1 ml of the appropriate primary antibody or control diluted in PBS (for details see table above) for 60 minutes at 37°C.
7. The cells were then washed twice by adding 1 ml of PBS, centrifugation at 1700 rpm for 5 minutes and removal of the supernatants. The resulting cell pellets were incubated with 0.1 ml of the appropriate secondary antibody diluted in PBS (for details see table above) for 40 minutes at 37°C and protected from light.
8. Following this incubation, the cells were washed twice with PBS as described in step 7 and the resulting cell pellets resuspended in 0.2 ml PBS in preparation for flow cytometric analysis.

EXPERIMENTAL NOTES

Under these experimental conditions, CD4 M58 and CD4 P59 demonstrated positive staining of the THP-1 cells whilst for all the other tested antibodies negative staining was observed.

SUPERSTARTER ANTIBODY PANELS



A panel of Superstar antibodies in trial sizes, to enable you to economically test the best antibodies, to determine which is going to be the best for your research project for only \$101, €88, £65.

The CD4 Superstarter Antibody Panel consists of:

- 1x BD Biosciences [553729](#) (star performer)
- 1x BioLegend [100406](#) (high reviews)
- 1x eBioscience [11-0041-81](#) (high reviews)

<http://www.antibodyresource.com/superstars>

Images of Superstar CD4 antibodies:

