Datasheet: PBP015KZZ

BATCH NUMBER 147638

Description:	BOVINE DENDRITIC CELL GROWTH KIT
Name:	BOVINE DENDRITIC CELL GROWTH KIT
Format:	Kit
Product Type:	Kits
Quantity:	5 ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Functional Assays	▪			1:20

Where this reagent has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the protein for use in their own system using appropriate negative/positive controls.

Target Species

Bovine

Product Form

Mixed recombinant bovine Interleukin-4 and bovine GM-CSF – supplied as a liquid

Preparation

Recombinant cytokines expressed in mammalian Chinese Hamster Ovary (CHO) cells using the pEE14® vector grown in antibiotic free media and USDA-approved dialysed FCS which has been screened for BVDV and virus growth by PCR.

Preservative Stabilisers

None present

Endotoxin Level

< 0.5 EU/ml

Product Information

Bovine dendritic cell growth kit contains a cocktail of biologically active interleukin-4 (IL-4) and granulocyte/macrophage-colony stimulating factor (GM-CSF) that have been premixed at optimal concentrations to induce dendritic cell development from peripheral blood-derived bovine (cattle) monocytes.

Instructions For Use

1. Prepare peripheral blood mononuclear cells (PBMC) from heparinised blood by density gradient centrifugation.

2. Purify $CD14^{+ve}$ cells by labelling PBMC with CD14 mAb and utilise magnetic bead or flow cytometric separation techniques.

3. Resuspend the isolated $CD14^{+ve}$ cells at a concentration of $1x10^6$ cells/ml in tissue culture medium (TCM = RPMI or equivalent + 10% foetal calf serum) containing a final dilution of 1:20 of PBP015KZZ .

4. Add 3ml of cell suspension to each well of a 6 well tissue culture plate.

5. Culture cells in a humidified atmosphere of 5% CO_2 in air, at approximately 37^oC.

6. Culture cells for 3 days. The cells may then be harvested and used for other procedures including immunophenotyping (as required).

7. If a longer culture period is required the cells must be 'fed' with new TCM containing cytokines on day 3:
Carefully remove 1ml spent medium from each well, care is required to avoid disturbing the cells.
Add 1.5ml fresh, pre-warmed TCM containing cytokines at 1:20 to each well and re-culture the DC for required culture period (typically up to 7 days).

8. At the end of the culture period adherent and non-adherent cells can be pooled for use in immunoassays and phenotyped (as required). Adherent cells may require a dissociation step to remove them from the plate.

References

1. Hope, J.C. *et al.* (2000) Dendritic cells induce CD4+ and CD8+ T-cell responses to *Mycobacterium bovis* and *M. avium* antigens in *Bacille Calmette Guérin* vaccinated and nonvaccinated cattle. Scand J Immunol. 52 (3): 285-91.
2. Walters, A.A. *et al.* (2015) Assessment of the enhancement of PLGA nanoparticle uptake by dendritic cells through the addition of natural receptor ligands and monoclonal antibody. Vaccine. pii: S0264-410X(15)01549-2.

Further Reading

1. Werling, D. *et al.* (1999) Involvement of caveolae in the uptake of respiratory syncytial virus antigen by dendritic cells. J Leukoc Biol. 66 (1): 50-8.

Storage

Store at -20^oC only.
Storage in frost-free freezers is not recommended.
This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature this recombinant protein. Should this product contain a precipitate we recommend microcentrifugation before use.

Guarantee

6 months from date of despatch

Acknowledgements

This reagent was produced as part of the BBSRC/SEERAD Immunological Toolbox. The kit development was also supported by the European Community's Seventh Framework Programme (FP7, 2007-2013), Research Infrastructures action, under the grant agreement No. FP7-228394 (NADIR)

Health And Safety Information	Material Safety Datasheet documentation #10286 available at: https://www.bio-rad-antibodies.com/SDS/PBP015KZZ 10286
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

MOUSE ANTI BOVINE CD14:FITC (MCA2678F)
MOUSE ANTI HUMAN CD14:Low Endotoxin (MCA1568EL)
MOUSE ANTI HUMAN CD14:Alexa Fluor® 647 (MCA1568A647)
MOUSE ANTI HUMAN CD14:Biotin (MCA1568B)
MOUSE ANTI HUMAN CD14:FITC (MCA1568F)
MOUSE ANTI HUMAN CD14:Pacific Blue® (MCA1568PB)
MOUSE ANTI HUMAN CD14:RPE (MCA1568PE)
MOUSE ANTI HUMAN CD14:Alexa Fluor® 700 (MCA1568A700)
MOUSE ANTI BOVINE MHC CLASS II DQ (MCA5655)
MOUSE ANTI BOVINE MHC CLASS II DR (MCA5656)

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