Datasheet: PBP014KZZ

Description:	BOVINE DENDRITIC CELL GROWTH KIT
Name:	BOVINE DENDRITIC CELL GROWTH KIT
Format:	Kit
Product Type:	Kits
Quantity:	1 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 reagent 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 (PBP014KZZ) 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 PBP014KZZ .

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°C.

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. Myster, F. *et al.* (2015) Viral semaphorin inhibits dendritic cell phagocytosis and migration but is not essential for gammaherpesvirus-induced lymphoproliferation in malignant catarrhal fever. J Virol. 89 (7): 3630-47.
3. Corripio-Miyar, Y. *et al.* (2017) 1,25-Dihydroxyvitamin D3 modulates the phenotype and function of Monocyte derived dendritic cells in cattle BMC Veterinary Research. 13 (1) [Epub ahead of print].

Further Reading

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

Storage

Store at -20°C 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

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Health And Safety Information	Material Safety Datasheet documentation #10286 available at: https://www.bio-rad-antibodies.com/SDS/PBP014KZZ 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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'M419884:230622'

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