

Datasheet: PBP014KZZ

**BATCH NUMBER 060511**

<b>Description:</b>	BOVINE DENDRITIC CELL GROWTH KIT
<b>Name:</b>	BOVINE DENDRITIC CELL GROWTH KIT
<b>Format:</b>	Kit
<b>Product Type:</b>	Kits
<b>Quantity:</b>	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](http://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.

<b>Target Species</b>	Bovine
<b>Product Form</b>	Mixed recombinant bovine Interleukin-4 and bovine GM-CSF – supplied as a liquid
<b>Preparation</b>	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.
<b>Preservative Stabilisers</b>	None present
<b>Endotoxin Level</b>	< 0.5 EU/ml
<b>Product Information</b>	<b>Bovine Dendritic cell growth kit (PBP014KZZ)</b> 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.
<b>Instructions For Use</b>	1. Prepare peripheral blood mononuclear cells (PBMC) from heparinised blood by density gradient centrifugation.

2. Purify CD14<sup>+</sup> cells by labelling PBMC with CD14 mAb and utilise magnetic bead or flow cytometric separation techniques.
3. Resuspend the isolated CD14<sup>+</sup> cells at a concentration of 1x10<sup>6</sup> 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<sub>2</sub> 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.

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#### References

1. Hope, J.C et al (2000) Dendritic cells induce CD4<sup>+</sup> and CD8<sup>+</sup> 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. Myser, 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 \(1\) \[Epub ahead of print\].](#)

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#### 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](#)

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#### 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.

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#### Guarantee

6 months from date of despatch

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#### 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)

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**Health And Safety Information**      Material Safety Datasheet documentation #10286 available at:  
<https://www.bio-rad-antibodies.com/SDS/PBP014KZZ>  
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**Regulatory**                      For research purposes only

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## 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 HUMAN CD14:RPE-Alexa Fluor® 647 \(MCA1568P647\)](#)  
[MOUSE ANTI BOVINE MHC CLASS II DQ \(MCA5655\)](#)  
[MOUSE ANTI BOVINE MHC CLASS II DR \(MCA5656\)](#)  
[MOUSE ANTI BOVINE CD1w2 \(MCA831G\)](#)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://bio-rad-antibodies.com/datasheets)  
'M362568:200514'

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