Datasheet: PPP031

BATCH NUMBER 160333

Description:	RECOMBINANT PIG CSF1-Fc
Name:	CSF1-Fc
Other names:	MAMMALIAN CSF1
Format:	Rec. Protein
Product Type:	Recombinant Protein
Quantity:	1 mg

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	▪			

Where this product 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 product for use in their own system using appropriate negative/positive controls.

Target Species

Pig

Species Cross Reactivity

Reacts with: Mouse

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified recombinant protein - liquid

Preparation

Recombinant protein expressed in the egg white of transgenic hens (original stock ISA brown and NovoGen brown), and purified by protein A and size exclusion chromatography.

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

None present

Product Information	**Recombinant Pig CSF1-Fc** is a recombinant fusion protein of porcine macrophage colony-stimulating factor (CSF1) and the Fc region of porcine IgG1a. Macrophage colony-stimulating factor (CSF1) is the main regulator of macrophage differentiation in all vertebrates. Mutations in CSF1 and CSF1 receptor (CSF1-R) genes support the view that CSF1-dependent macrophages are essential for normal development and homeostasis. Therefore, numerous potential therapeutic applications of CSF1 have been envisaged (Gow *et al.* 2010, Hume *et al.* 2012). Recombinant CSF1 has been extensively used *in vitro*, to drive the production of macrophages from bone marrow progenitors in culture and to promote the maturation of monocytes (Schroder *et al.* 2012). CSF1 has diverged between species, and there is limited cross reactivity between mouse and human. However, the recombinant pig CSF1-Fc protein is active in mouse experiments. The bioactive CSF1 molecule is only 150 amino acids, and when injected, has a short half-life in circulation. The fusion protein of pig CSF1 with the Fc region of pig IgG1a was produced in order to extend the half-life, permitting analysis of the role of the protein in macrophage homeostasis and function. The Fc component had no independent biological activity. And the administration of CSF1-Fc in mice produced a large increase in blood monocytes, and in macrophage numbers throughout the body. The protein was also shown to be safe and efficacious when injected into pigs (Gow *et al.* 2014).
Protein Molecular Weight	The observed molecular weight by SDS-PAGE is 98 kDa
Purity	>95% by SDS PAGE analysis
References	1. Gow, D.J. *et al.* (2010) CSF-1, IGF-1, and the control of postnatal growth and development. J Leukoc Biol. 88 (3): 475-81. 2. Hume, D.A. & Macdonald, K.P. (2012) Therapeutic applications of macrophage colony-stimulating factor-1 (CSF-1) and antagonists of CSF-1 receptor (CSF-1R) signaling. Blood. 119 (8): 1810-20. 3. Schroder, K. *et al.* (2012) Conservation and divergence in Toll-like receptor 4-regulated gene expression in primary human versus mouse macrophages. Proc Natl Acad Sci U S A. 109 (16): E944-53. 4. Kapetanovic, R. *et al.* (2012) Pig bone marrow-derived macrophages resemble human macrophages in their response to bacterial lipopolysaccharide. J Immunol. 188 (7): 3382-94. 5. Gow, D.J. *et al.* (2014) Characterisation of a novel Fc conjugate of macrophage colony-stimulating factor. Mol Ther. 22 (9): 1580-92. 6. Stutchfield, B.M. *et al.* (2015) CSF1 Restores Innate Immunity After Liver Injury in Mice and Serum Levels Indicate Outcomes of Patients With Acute Liver Failure. Gastroenterology. 149 (7): 1896-1909.e14.
Storage	Store at -20^{o}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 the protein.

Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10209 available at: https://www.bio-rad-antibodies.com/SDS/PPP031 10209
Regulatory	For research purposes only

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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

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