

Datasheet: PPP031

**BATCH NUMBER 170518**

<b>Description:</b>	RECOMBINANT PIG CSF1-Fc
<b>Name:</b>	CSF1-Fc
<b>Other names:</b>	MAMMALIAN CSF1
<b>Format:</b>	Rec. Protein
<b>Product Type:</b>	Recombinant Protein
<b>Quantity:</b>	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](http://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](#)).

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**Protein Molecular Weight** The observed molecular weight by SDS-PAGE is 98 kDa

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**Purity** >95% by SDS PAGE analysis

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**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.](#)

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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 the protein.

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**Guarantee** 12 months from date of despatch

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**Health And Safety Information** Material Safety Datasheet documentation #10209 available at:  
<https://www.bio-rad-antibodies.com/SDS/PPP031>  
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**Regulatory** For research purposes only

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