

## Datasheet: MCA90SBV515

<b>Description:</b>	MOUSE ANTI HUMAN CD90:StarBright Violet 515
<b>Specificity:</b>	CD90
<b>Other names:</b>	THY1
<b>Format:</b>	StarBright Violet 515
<b>Product Type:</b>	Monoclonal Antibody
<b>Clone:</b>	F15-42-1
<b>Isotype:</b>	IgG1
<b>Quantity:</b>	100 TESTS/0.5ml

### 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
Flow Cytometry	▪			Neat

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

Human

#### Species Cross Reactivity

Reacts with: Cynomolgus monkey  
**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 IgG conjugated to StarBright Violet 515 - liquid

#### Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
StarBright Violet 515	402	516

#### Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

#### Buffer Solution

Phosphate buffered saline

<b>Preservative</b>	0.09% Sodium Azide (NaN <sub>3</sub> )
<b>Stabilisers</b>	1% Bovine Serum Albumin 0.1% Pluronic F68 0.1% PEG 3350 0.05% Tween 20
<b>Immunogen</b>	Purified human brain Thy-1.
<b>External Database Links</b>	<b>UniProt:</b> <a href="#">P04216</a> <a href="#">Related reagents</a>  <b>Entrez Gene:</b> <a href="#">7070</a> THY1 <a href="#">Related reagents</a>
<b>Fusion Partners</b>	Spleen cells from immunized BALB/c mice were fused with cells of the mouse NS-1 myeloma cell line.
<b>Specificity</b>	<b>Mouse anti Human CD90 antibody, clone F15-42-1</b> recognizes the human CD90 cell surface antigen, a ~25 kDa glycoprotein homologous to rat Thy1. The antigen is expressed by a subset of CD34+ve cells in the bone marrow and by prothymocytes within the thymus. CD90 is also expressed extensively within the brain.  Mouse anti Human CD90 antibody, clone F15-42-1 is routinely tested in flow cytometry on the MOLT4 cell line.
<b>Flow Cytometry</b>	Use 5µl of the suggested working dilution to label 10 <sup>6</sup> cells in 100µl. Best practices suggest a 5 minutes centrifugation at 6,000g prior to sample application.
<b>References</b>	<ol style="list-style-type: none"> <li>1. Daar, A.S. &amp; Fabre, J.W. (1981) Demonstration with monoclonal antibodies of an unusual mononuclear cell infiltrate and loss of normal epithelial membrane antigens in human breast carcinomas. <a href="#">Lancet. 2 (8244): 434-8.</a></li> <li>2. Fiegel, H.C. <i>et al.</i> (2004) Stem-like cells in human hepatoblastoma. <a href="#">J Histochem Cytochem. 52 (11): 1495-501.</a></li> <li>3. Hagood, J.S. <i>et al.</i> (2005) Loss of fibroblast Thy-1 expression correlates with lung fibrogenesis. <a href="#">Am J Pathol. 167 (2): 365-79.</a></li> <li>4. Tome, M. <i>et al.</i> (2007) Calponin is expressed by subpopulations of connective tissue cells but not olfactory ensheathing cells in the neonatal olfactory mucosa. <a href="#">BMC Neurosci. 8: 74.</a></li> <li>5. Diaz-Romero, J. <i>et al.</i> (2008) Immunophenotypic changes of human articular chondrocytes during monolayer culture reflect bona fide dedifferentiation rather than amplification of progenitor cells. <a href="#">J Cell Physiol. 214: 75-83.</a></li> <li>6. Pessina, A. <i>et al.</i> (2010) CD45+/CD133+ positive cells expanded from umbilical cord blood expressing PDX-1 and markers of pluripotency. <a href="#">Cell Biol Int. 34: 783-90.</a></li> <li>7. Manochantr, S. <i>et al.</i> (2010) Isolation, characterization and neural differentiation potential of amnion derived mesenchymal stem cells. <a href="#">J Med Assoc Thai. 93 Suppl 7: S183-91.</a></li> <li>8. Karlsen, T.A. <i>et al.</i> (2010) Human primary articular chondrocytes, chondroblasts-like</li> </ol>

- cells, and dedifferentiated chondrocytes: differences in gene, microRNA, and protein expression and phenotype. [Tissue Eng Part C Methods. 17: 219-27.](#)
9. Hauser, P.V. *et al.* (2010) Stem cells derived from human amniotic fluid contribute to acute kidney injury recovery. [Am J Pathol. 177: 2011-21.](#)
10. Yin, S. *et al.* (2010) Chondrogenic transdifferentiation of human dermal fibroblasts stimulated with cartilage-derived morphogenetic protein 1. [Tissue Eng Part A. 16: 1633-43.](#)
11. Gieseke, F. *et al.* (2010) Human multipotent mesenchymal stromal cells use galectin-1 to inhibit immune effector cells. [Blood. 116: 3770-9.](#)
12. Holzwarth, C. *et al.* (2010) Low physiologic oxygen tensions reduce proliferation and differentiation of human multipotent mesenchymal stromal cells. [BMC Cell Biol. 11:11](#)
13. Meng, J. *et al.* (2011) Contribution of human muscle-derived cells to skeletal muscle regeneration in dystrophic host mice. [PLoS One. 6: e17454.](#)
14. Cizeau, J. *et al.* (2011) Fusogenics: a recombinant immunotoxin-based screening platform to select internalizing tumor-specific antibody fragments. [J Biomol Screen. 16: 90-100.](#)
15. Cox, G. *et al.* (2011) The use of the reamer-irrigator-aspirator to harvest mesenchymal stem cells. [J Bone Joint Surg Br. 93: 517-24.](#)
16. Shafaei, H. *et al.* (2011) Effects of human placental serum on proliferation and morphology of human adipose tissue-derived stem cells. [Bone Marrow Transplant. 46: 1464-71.](#)
17. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. [PLoS One. 7: e35577.](#)
18. Supokawej, A. *et al.* (2013) Cardiogenic and myogenic gene expression in mesenchymal stem cells after 5-azacytidine treatment. [Turk J Haematol. 30 \(2\): 115-21.](#)
19. Escobar, C.H. & Chaparro, O. (2016) Xeno-Free Extraction, Culture, and Cryopreservation of Human Adipose-Derived Mesenchymal Stem Cells. [Stem Cells Transl Med. 5 \(3\): 358-65.](#)
20. Shinoda, K. *et al.* (2016) Thy1+IL-7+ lymphatic endothelial cells in iBALT provide a survival niche for memory T-helper cells in allergic airway inflammation. [Proc Natl Acad Sci U S A. 113 \(20\): E2842-51.](#)
21. Kamprom, W. *et al.* (2016) Endothelial Progenitor Cell Migration-Enhancing Factors in the Secretome of Placental-Derived Mesenchymal Stem Cells. [Stem Cells Int. 2016: 2514326.](#)
22. Vaquero, J. *et al.* (2016) An approach to personalized cell therapy in chronic complete paraplegia: The Puerta de Hierro phase I/II clinical trial. [Cytotherapy. 18 \(8\): 1025-36.](#)
23. Zhang, X. *et al.* (2017) Regeneration of hyaline-like cartilage in situ with SOX9 stimulation of bone marrow-derived mesenchymal stem cells. [PLoS One. 12 \(6\): e0180138.](#)
24. Garikipati, V. N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. [PLoS One. 13 \(2\): e0192244.](#)
25. Chaturvedi, C.P. *et al.* (2018) Altered Expression of Hematopoiesis Regulatory Molecules in Lipopolysaccharide-Induced Bone Marrow Mesenchymal Stem Cells of Patients with Aplastic Anemia. [Stem Cells Int. 2018: 6901761.](#)
26. Noda, S. *et al.* (2019) Effect of cell culture density on dental pulp-derived mesenchymal stem cells with reference to osteogenic differentiation. [Sci Rep. 9 \(1\): 5430.](#)
27. Song, H. *et al.* (2019) MIF/CD74 axis participates in inflammatory activation of

- Schwann cells following sciatic nerve injury. [J Mol Histol. 50 \(4\): 355-67.](#)
28. Paiboon, N. *et al.* (2019) Gestational Tissue-Derived Human Mesenchymal Stem Cells Use Distinct Combinations of Bioactive Molecules to Suppress the Proliferation of Human Hepatoblastoma and Colorectal Cancer Cells. [Stem Cells Int. 2019: 9748795.](#)
29. Sanjurjo-Rodriguez, C. *et al.* (2020) Gene Expression Signatures of Synovial Fluid Multipotent Stromal Cells in Advanced Knee Osteoarthritis and Following Knee Joint Distraction. [Front Bioeng Biotechnol. 8: 579751.](#)
30. Fujii-Tezuka, R. *et al.* (2021) Umbilical artery tissue contains p75 neurotrophin receptor-positive pericyte-like cells that possess neurosphere formation capacity and neurogenic differentiation potential. [Regen Ther. 16: 1-11.](#)
31. Orikasa, S. *et al.* (2022) Hypoxia-inducible factor 1 $\alpha$  induces osteo/odontoblast differentiation of human dental pulp stem cells via Wnt/ $\beta$ -catenin transcriptional cofactor BCL9. [Sci Rep. 12 \(1\): 682.](#)
32. Sirithammajak, S. *et al.* (2022) Human Mesenchymal Stem Cells Derived from the Placenta and Chorion Suppress the Proliferation while Enhancing the Migration of Human Breast Cancer Cells. [Stem Cells Int. 2022: 4020845.](#)
33. Arenal, Á. *et al.* (2022) Effects of Cardiac Stem Cell on Postinfarction Arrhythmogenic Substrate. [Int J Mol Sci. 23 \(24\): 16211.](#)
34. Kruchen, A. *et al.* (2023) Epigenetic Modification of Mesenchymal Stromal Cells Derived from Bone Marrow and Embryonal Tumors to Facilitate Immunotherapeutic Approaches in Pediatric Malignancies. [Curr Issues Mol Biol. 45 \(3\): 2121-35.](#)
35. Payet, M. *et al.* (2023) Inflammatory Mesenchymal Stem Cells Express Abundant Membrane-Bound and Soluble Forms of C-Type Lectin-like CD248. [Int J Mol Sci. 24 \(11\): 9546.](#)
36. Tiraihi, T. *et al.* (2023) A Sequential Culturing System for Generating Epithelial-Like Stem Cells from Human Mesenchymal Stem Cells Derived from Adipose Tissue [Cell Tissue Biol. 17 \(6\): 639-52.](#)
37. Tripathy, N.K. *et al.* (2018) Cardiomyogenic Heterogeneity of Clonal Subpopulations of Human Bone Marrow Mesenchymal Stem Cells. [J Stem Cells Regen Med. 14 \(1\): 27-33.](#)
38. Altaie, A. *et al.* (2022) Device-Based Enrichment of Knee Joint Synovial Cells to Drive MSC Chondrogenesis Without Prior Culture Expansion *In Vitro*: A Step Closer to 1-Stage Orthopaedic Procedures. [Am J Sports Med. 50 \(1\): 152-161.](#)

<b>Storage</b>	Store at +4°C. DO NOT FREEZE. This product should be stored undiluted.
<b>Guarantee</b>	12 months from date of despatch
<b>Acknowledgements</b>	This product is covered by U.S. Patent No. 10,150,841 and related U.S. and foreign counterparts
<b>Health And Safety Information</b>	Material Safety Datasheet documentation #20471 available at: <a href="https://www.bio-rad-antibodies.com/SDS/MCA90SBV515">https://www.bio-rad-antibodies.com/SDS/MCA90SBV515</a> 20471
<b>Regulatory</b>	For research purposes only

## Related Products

## Recommended Useful Reagents

[HUMAN SEROBLOCK \(BUF070A\)](#)

[HUMAN SEROBLOCK \(BUF070B\)](#)

**North & South** Tel: +1 800 265 7376

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

**Worldwide**

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