

## HRP Streptavidin

<b>Catalog# / Size</b>	405210 / 1 mL
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Streptavidin-Horseradish Peroxidase, SAV-HRP
<b>Description</b>	Streptavidin binds to biotin with high affinity. Streptavidin-HRP is useful for detecting biotinylated antibodies, e.g., in ELISA, ELISPOT, IHC or Western blotting. For ELISA applications, HRP will act on soluble substrates, such as ABTS or TMB, to yield a colorimetric reaction. For ELISPOT or Western blotting applications, HRP will act on precipitating substrates, such as 4CN, to yield a colorimetric reaction.

### Product Details

---

<b>Verified Reactivity</b>	Human, Mouse, Rat, All Species
<b>Formulation</b>	Buffered solution containing bovine protein and preservatives (methylisothiazolone, bromonitrodioxane, and other active isothiazolones).
<b>Preparation</b>	Streptavidin is conjugated with horseradish peroxidase under optimal conditions.
<b>Storage &amp; Handling</b>	<p>The streptavidin-HRP solution should be stored undiluted between 2°C and 8°C. <b>Avoid exposure to sodium azide.</b></p> <p>To obtain lot-specific expiration date, please enter the lot number in our <a href="#">Concentration and Expiration Lookup</a> or <a href="#">Certificate of Analysis</a> online tools.)</p> <p>This product has a shelf-life of 12 months or less. Please use our <a href="#">Expiration Lookup Tool</a> to verify the expiration date of your lot of product</p>
<b>Application</b>	<a href="#">ELISA - Quality tested</a> <a href="#">ELISPOT, WB, IHC - Reported in the literature, not verified in house</a>
<b>Recommended Usage</b>	Each lot of this Streptavidin-HRP is quality control tested by ELISA assay. For ELISA or Western blot analysis, the reagent should be titrated between 1:1000 - 1:3000 to determine optimal conditions. For ELISPOT analysis, the reagent should be titrated between 1:500 - 1:1500 to determine optimal conditions. Avoid using biotin-containing solutions as diluents and solutions containing sodium azide. Sodium azide is an inhibitor of horseradish peroxidase. It is recommended that the reagent be titrated for optimal performance for each application.
<b>Application Notes</b>	Streptavidin-HRP is useful as a second step reagent for indirect enzymatic labelling, in conjunction with biotinylated primary antibodies. Sav-HRP is recommended for ELISA, ELISPOT and Western blotting, when used with the relevant substrate system.
<b>Application References</b>	<ol style="list-style-type: none"><li>Li KJ, <i>et al.</i> 2006. <i>J. Leukoc. Biol.</i> doi:10.1189/jlb.1105668. <a href="#">PubMed</a></li><li>Weldon S, <i>et al.</i> 2009. <i>J. Immunol.</i> 183:8148. <a href="#">PubMed</a></li><li>Basnayake K, <i>et al.</i> 2010. <i>J Am Soc Nephrol.</i> 21:1165. <a href="#">PubMed</a></li><li>Marder W, <i>et al.</i> 2011. <i>Ann Rheum Dis.</i> <a href="#">PubMed</a></li><li>Cheng J, <i>et al.</i> 2012. <i>Mol Biol Cell.</i> 23:2891. <a href="#">PubMed</a></li><li>Vishwakarma V, <i>et al.</i> 2012. <i>Infect Immun.</i> 80:3236. <a href="#">PubMed</a></li><li>Sun X, <i>et al.</i> 2013. <i>J. Immunol.</i> 190:2536. <a href="#">PubMed</a></li><li>Van Phan T, <i>et al.</i> 2013. <i>Biochem Pharmacol.</i> 85:1145. <a href="#">PubMed</a></li><li>Ranganathan P, <i>et al.</i> 2013. <i>J Rheumatol.</i> 40:129. <a href="#">PubMed</a></li><li>Din Su, <i>et al.</i> 2013. <i>Occup Med.</i> <a href="#">PubMed</a></li><li>Bulut GB, <i>et al.</i> 2013. <i>Blood.</i> 122:3964. <a href="#">PubMed</a></li><li>Chia YL, <i>et al.</i> 2013. <i>Antiviral Res.</i> 3542:354. <a href="#">PubMed</a></li><li>Ahn JM, <i>et al.</i> 2014. <i>Mol Cell Proteomics.</i> 13:30. <a href="#">PubMed</a></li><li>Din SU, <i>et al.</i> 2014. <i>Occup Med.</i> 64:39. <a href="#">PubMed</a></li><li>Balmer ML, <i>et al.</i> 2014. <i>Sci Transl Med.</i> 21:237. <a href="#">PubMed</a></li><li>Klehmet J, <i>et al.</i> 2014. <i>J Neurol Neurosurg Psychiatry.</i> <a href="#">PubMed</a></li><li>Wu CC, <i>et al.</i> 2014. <i>Cancer Epidemiol. Biomarkers Prev.</i> 23:1569. <a href="#">PubMed</a></li><li>Peng JG, <i>et al.</i> 2014. <i>J Virol.</i> 88:8386. <a href="#">PubMed</a></li><li>Chlon TM, <i>et al.</i> 2014. <i>J Virol.</i> 88:11315. <a href="#">PubMed</a></li><li>Sadovskaya I, <i>et al.</i> 2014. <i>Carbohydr Poly.</i> 111:139. <a href="#">PubMed</a></li><li>Liu T, <i>et al.</i> 2015. <i>Infect Immun.</i> 83:2011. <a href="#">PubMed</a></li></ol>
<b>(PubMed link indicates BioLegend citation)</b>	

22. Himmelein S, *et al.* 2015. *J Virol.* 89:5747. [PubMed](#)
23. Dinter J, *et al.* 2015. *J Mol Endocrinol.* 54:205. [PubMed](#)
24. Yang L, *et al.* 2015. *J Immunol.* 194:5635. [PubMed](#)

## Product Citations

1. Zhang C, *et al.* 2015. *J Surgical Res.* 197: 301-306. [PubMed](#)
2. Lin C, *et al.* 2020. *Cancer Immunol Res.* 632:8. [PubMed](#)
3. Wang YH, *et al.* 2018. *Oncol Lett.* 16:6903. [PubMed](#)
4. Csobán-Szabó Z, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
5. Lopez-Gordo E, *et al.* 2022. *Front Med (Lausanne).* 8:732095. [PubMed](#)
6. Tabynov K, *et al.* 2022. *NPJ Vaccines.* 7:24. [PubMed](#)
7. Clemente V, *et al.* 2022. *Cancer Res Commun.* 2:784. [PubMed](#)
8. Watanabe T, *et al.* 2020. *Cytotherapy.* . [PubMed](#)
9. Gendron D, *et al.* 2017. *Pulm Pharmacol Ther.* 10.1016/j.pupt.2017.03.010. [PubMed](#)
10. Kongsuphol P, *et al.* 2022. *Commun Med (Lond).* 1:46. [PubMed](#)
11. Cheng J, *et al.* 2012. *Mol Biol Cell.* 23:2891. [PubMed](#)
12. Tu S, *et al.* 2015. *Nature.* 534:387-390. [PubMed](#)
13. Brugiroux S, *et al.* 2016. *Nat Microbiol.* 2:16215. [PubMed](#)
14. Kikuchi N, *et al.* 2019. *Biol Pharm Bull.* 42:57. [PubMed](#)
15. Li Q, *et al.* 2020. *Cell Stem Cell.* 675:26. [PubMed](#)
16. Himmelein S, *et al.* 2015. *J Virol.* 89:5747. [PubMed](#)
17. Ahn J, *et al.* 2014. *Mol Cell Proteomics.* 13:30. [PubMed](#)
18. Gamache J, *et al.* 2019. *Nat Commun.* 10:2479. [PubMed](#)
19. Hooper K, Kong W, Ganea D, *et al.* 2017. *PLoS One.* 12(6):e0179184. [PubMed](#)
20. Castellanos CA, *et al.* 2021. *Sci Immunol.* 6:eabh0707. [PubMed](#)
21. Fan X, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
22. Wu J 2014. *J Virol.* 88:8386. [PubMed](#)
23. Cárdenas–Torres FI, *et al.* 2019. *Medicina (Kaunas).* 55:3. [PubMed](#)
24. Duan S, *et al.* 2019. *J Clin Invest.* 129:1387. [PubMed](#)
25. Sielemann J, *et al.* 2021. *Nat Commun.* 12:6549. [PubMed](#)
26. Hwang D, *et al.* 2016. *PLoS One.* 11: 0152522. [PubMed](#)
27. Marder W, *et al.* 2011. *Ann Rheum Dis.* 70:1550. [PubMed](#)
28. Li K, *et al.* 2006. *J Leukoc Biol.* 80:350. [PubMed](#)
29. Asarnow D, *et al.* 2021. *Cell.* 184:3192. [PubMed](#)
30. Vishwakarma V, *et al.* 2012. *Infect Immun.* 80:3236. [PubMed](#)
31. Nakanishi M, *et al.* 2019. *Cell.* 177:910. [PubMed](#)
32. Czakai K, *et al.* 2016. *Sci Rep.* 6:27990. [PubMed](#)
33. Weldon S, *et al.* 2009. *J Immunol.* 183:8148. [PubMed](#)
34. Duan S, *et al.* 2021. *J Immunol.* 206:2290. [PubMed](#)
35. Phillips AT, *et al.* 2021. *Invest Ophthalmol Vis Sci.* 62:15. [PubMed](#)
36. Counoupas C, *et al.* 2020. *NPJ Vaccines.* 0.28125. [PubMed](#)
37. Peng Y 2017. *PLoS One.* 10.1371/journal.pone.0188112. [PubMed](#)
38. Morita M, *et al.* 2021. *Heliyon.* 7:e06228. [PubMed](#)
39. Müller A, *et al.* 2016. *PLoS One.* 11:e0168260. [PubMed](#)
40. Tidley S 2014. *Occup Med.* 64:39. [PubMed](#)
41. Ye F, *et al.* 2016. *J Virol.* 90: 9654 - 9663. [PubMed](#)
42. Crowley SJ, *et al.* 2020. *Open Biol.* 10:190235. [PubMed](#)
43. Morgan R, *et al.* 2016. *PLoS One.* 11: 0162008. [PubMed](#)
44. Chlon T, *et al.* 2014. *J Virol.* 88:11315. [PubMed](#)
45. Tuladhar R, *et al.* 2019. *J Biol Chem.* 294:6273. [PubMed](#)
46. Gröschel C, *et al.* 2017. *Sci Rep.* 10.1038/s41598-017-16147-1. [PubMed](#)
47. Tsukamoto H, *et al.* 2017. *FEBS Lett.* 10.1002/1873-3468.12768. [PubMed](#)
48. Shukla SP, *et al.* 2021. *Int J Mol Sci.* 22:. [PubMed](#)
49. Simic MS, *et al.* 2019. *Sci Adv.* 5:eaaw0025. [PubMed](#)
50. Herp S, *et al.* 2019. *Cell Host Microbe.* 25:681. [PubMed](#)
51. Vijver SV, *et al.* 2021. *Front Immunol.* 12:733561. [PubMed](#)
52. Cildag S, *et al.* 2021. *Med Pharm Rep.* 94:53. [PubMed](#)
53. Bello A, *et al.* 2021. *Immunol Cell Biol.* 99:879. [PubMed](#)
54. Klehmet J, *et al.* 2014. *J Neurol Psychiatry.* . [PubMed](#)
55. Chia Y, *et al.* 2013. *Antiviral Res.* 3542:354. [PubMed](#)
56. Bulut G, *et al.* 2013. *Blood.* 122:3964. [PubMed](#)
57. den Hartigh AB, *et al.* 2018. *Curr Protoc Immunol.* :e52. [PubMed](#)
58. Clemente V, *et al.* 2021. *Cells.* 10: . [PubMed](#)
59. Yen J, *et al.* 2015. *J Leukoc Biol.* 98: 689-702. [PubMed](#)
60. Ozawa T, *et al.* 2021. *iScience.* 24:102488. [PubMed](#)
61. Sinha D, *et al.* 2020. *Anal Biochem.* 113827:608. [PubMed](#)
62. Tsanov K, *et al.* 2016. *Nat Cell Biol.* 19:60-67. [PubMed](#)
63. Baerenwaldt A, *et al.* 2016. *J Immunol.* 196: 2561 - 2571. [PubMed](#)
64. Dinter J, *et al.* 2015. *J Mol Endocrinol.* 54:205. [PubMed](#)
65. Makowski EK, *et al.* 2021. *MAbs.* 13:1951426. [PubMed](#)
66. Sun X, *et al.* 2013. *J Immunol.* 190:2536. [PubMed](#)
67. Balmer M, *et al.* 2014. *Sci Transl Med.* 21:237. [PubMed](#)
68. Wu C, *et al.* 2014. *Cancer Epidemiol Biomarkers Prev.* 23:1569. [PubMed](#)
69. Kiriakidis S, *et al.* 2017. *Kidney International.* 10.1016/j.kint.2017.03.008. [PubMed](#)
70. Basnayake K, *et al.* 2010. *J Am Soc Nephrol.* 1.684027778. [PubMed](#)
71. Kim DJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:15837. [PubMed](#)
72. Parrish H, *et al.* 2016. *Proc Natl Acad Sci U S A.* 113: 3000 - 3005. [PubMed](#)
73. Ugurlu-Çimen D, *et al.* 2021. *Epigenetics Chromatin.* 14:32. [PubMed](#)
74. Phan T, *et al.* 2013. *Biochem Pharmacol.* 85:1145. [PubMed](#)

75. Sadovskaya I, *et al.* 2014. Carbohydr Polym. 111:139. [PubMed](#)
76. Xing QR, *et al.* 2020. Sci Adv. 6:00. [PubMed](#)
77. von Wenserski L, *et al.* 2020. Leukemia. . [PubMed](#)
78. Isernhagen A, *et al.* 2015. EMBO Mol Med. 7: 1480 - 1502. [PubMed](#)
79. Shinohara M 2015. J Immunol. 194:5635. [PubMed](#)
80. Liu T, *et al.* 2015. Infect Immun . 83:2011. [PubMed](#)
81. Gröschel C, *et al.* 2018. Front Immunol. 9:2665. [PubMed](#)
82. Buschor S, *et al.* 2017. PLoS Pathogens. 13(6):e1006476. [PubMed](#)

## Antigen Details

---

Gene ID                      NA

## Related Protocols

---

[Sandwich ELISA Protocol](#)

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

\*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, [www.biolegend.com/ordering#license](http://www.biolegend.com/ordering#license)). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 [www.biolegend.com](http://www.biolegend.com)  
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587