



Qty: 3 mg/2 ml

Streptavidin-AP Conjugate

Catalog No. 43-4322

Lot No. See product label

AP-Streptavidin Conjugate

FORM

Streptavidin-AP is supplied as 2ml of liquid at 1.5mg/ml in a proprietary enzyme-conjugate stabilizing buffer containing 0.1% sodium azide as a preservative. In the preparation of this product, Zymed uses highly purified streptavidin and alkaline phosphatase.

BACKGROUND

Streptavidin (MW \approx 66 kDa) binds specifically with biotin (244 Da). It is derived from the bacterium *Streptomyces avidinii* and bears a remarkable similarity to chicken egg-white avidin both in three-dimensional structure and its ability to bind biotin with extremely high affinity ($K_d=10^{-15}$ M). It is a tetrameric protein capable of binding up to 4 biotin molecules. Unlike avidin, Streptavidin is non-glycosylated and is essentially neutral in charge, whereas avidin (pI \approx 10.5) is basic at neutral pH. Because of this, streptavidin has considerably less non-specific binding resulting in less background. It has replaced avidin as the reagent of choice for most applications where protein interactions may cause background.

USAGE

Zymed's Streptavidin-AP is recommended for use in detection systems utilizing biotinylated antibodies, and other biotinylated molecules. This product can be used for a variety of common applications including immunohistochemistry, Western blotting, *In Situ* hybridization, and ELISA. For an excellent, comprehensive review of properties and applications of streptavidin/biotin amplification methods, see Bayer and Wilchek's Avidin-Biotin Technology, Methods in Enzymology, Volume 184, Academic Press (1990).

Working concentrations for specific applications should be determined by the investigator. Appropriate dilutions will be affected by several factors, including primary and secondary antibody affinity, antigen concentration and length of incubations. We recommend the following ranges as starting points.

Immunohistochemistry ⁽¹⁻³⁾ :	1:100 to 1:300
Western blot (chromogenic) ⁽⁴⁾ :	1:500 to 1:1,250
Western blot (chemiluminescence):	1:1,000 to 1:2,500
ELISA ⁽⁵⁻⁷⁾ :	1:1,000 to 1:2,500

PROCEDURES

Zymed has general guidelines for ELISA, blotting and other applications available on our Web site at www.invitrogen.com/methods. You may also obtain assistance from our Technical Service department at (800) 874-4494. Another good source of information about general immunoassay procedures is Ed Harlow & David Lane's Antibodies, A Laboratory Manual, Cold Spring Harbor Laboratory (1988). Also see Bayer and Wilchek (referenced above).

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STORAGE AND STABILITY

Store at 2-8°C.

WARRANTY

Zymed products are guaranteed to perform as stated for the recommended applications. This warranty is valid until the expiration date printed on the bottle.

SELECTED PRODUCT REFERENCES

References cite Zymed's standard products.

Immunohistochemistry & Immunocytochemistry

1. Greenwald, R.J. et al, *J Immunol.* 158:4088-4096 (1997).
2. Nirenburg, S. and Cepko, C., *J Neurosci.* 13(8):3238-3251 (1993).
3. Yang, X. et al., *J Neurosci.* 13(7):3006-3017 (1993).

Western blot

4. Zioncheck, T.F. et al, *J Biol. Chem.* 270(28):16871-16878 (1995).

ELISA

5. Deng, G. et al, *J Cell Biol.* 134(6):1563-1571 (1996).
6. Yoshida, A. et al, *J Immunol.* 155:2057-2066 (1995).
7. Thomas, A.P. et al, *Hybridoma* 15(5):359-364(1996).

In Situ Hybridizaion

10. McQuid, S. and Allan, G., *J. Histochem. Cytochem.* 40:569-574 (1992)

RELATED PRODUCTS

Product	Cat. No.
Goat anti-Mouse IgG (H+L)-Biotin (ZyMAX™ Grade)	81-6540
Goat anti Rabbit IgG (H+L)-Biotin (ZyMAX™ Grade)	81-6140
Rabbit anti-Goat IgG (H+L)-Biotin (ZyMAX™ Grade)	81-1640
Goat anti-Human IgG (H+L)-Biotin (ZyMAX™ Grade)	81-7140
Goat anti-Rat IgG (H+L)-Biotin	62-9540
pNPP Single Solution (chromogen for ELISA)	00-2212 (100 ml), 00-2213 (500 ml)
BCIP/NBT Reagent Kit (chromagen for immunoblotting)	00-2210
BCIP/NBT Liquid Reagent Kit (chromogen for IHC, blotting)	00-2211 (IHC), 00-2209 (blot)
AP-Fast Red Reagent (chromagen for IHC)	00-2234
AP-Blue Reagent Kit (chromogen for IHC)	00-2204

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