

## The Benefits of Neutravidin over Streptavidin and Avidin

### Highlights

- Near-neutral pI (6.3) and no glycosylation, unlike avidin
- No RYD recognition sequence like streptavidin
- Generally lower nonspecific binding than avidin and streptavidin

Avidin is a glycoprotein found in the egg white and tissues of birds, reptiles and amphibia. This protein contains four identical subunits having a combined mass of 67,000-68,000 daltons. NeutrAvidin has a mass of 60,000 daltons and is a deglycosylated form of avidin. As a result, lectin binding is reduced to undetectable levels, yet biotin-binding affinity ( $K_a = 10^{15} M^{-1}$ )<sup>1</sup> is retained because the carbohydrate and RYD sequence is not necessary for this activity. NeutrAvidin Protein offers the advantages of a neutral pI to minimize nonspecific adsorption, along with lysine residues that remain available for derivatization or conjugation. NeutrAvidin Protein yields the lowest nonspecific binding among the known biotin binding proteins. The specific activity for biotin-binding is approximately 14 µg/mg of protein, which is near the theoretical maximum activity.

	Biotin-Binding Protein		
	Avidin	Streptavidin	NeutrAvidin
<b>Molecular Weight</b>	67K	53K	60K
<b>Biotin-binding Sites</b>	4	4	4
<b>Isoelectric Point (pI)</b>	10	6.8-7.5	6.3
<b>Specificity</b>	Low	High	Highest

### References

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