

## Product Data Sheet

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| <b>Cat#:</b>                | AD-121-U  |
| <b>Cat#:</b>                | AD-121-B, Biotin labeled  |
| <b>Cat#:</b>                | AD-121-F, FITC labeled  |
| <b>Product Description:</b> | Histone H4 N-terminal tail (4.33)   |
| <b>Aptamer Type:</b>        | DNA   |
| <b>Sequence:</b>            | 5'-TGGTGGGGTTCCCGGGAGGGCGGCTACGGGTTCCGTAATCAGATTTGTGT-3'; 50-mer  |
| <b>Size</b>                 | 100 nM  |
| <b>Mol. Wt:</b>             | 15592.13 g/mole   |
| <b>Purity:</b>              | >95%  |
| <b>Affinity:</b>            | 1.3 nM (reported value)   |
| <b>Comments:</b>            | Affinities for H3, H2 A, and H2 B histones are also provided.   |
| <b>Notes:</b>               | In vitro selection of a DNA aptamer that binds to histone (eukaryotic proteins that make up the core structure of nucleosomes) H4 with a Kd of 13 nM and distinguishes other core histone proteins by 100 to 480-fold, which corresponds to a $\Delta\Delta G$ of up to 3.4 kcal/mol resulted in extending fundamental understanding of aptamers to include the ability to fold into shapes that selectively bind alkaline proteins. These aptamers are rare relative to simpler solutions that bind with high affinity but low specificity, their isolation requires strong counter selection measures that deplete the pool of low specificity binders. |
| <b>References:</b>          | Yu et al. "Aptamers can Discriminate alkaline Proteins with High Specificity." ChemBioChem, 12 (2011): 2659-2666.   |

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