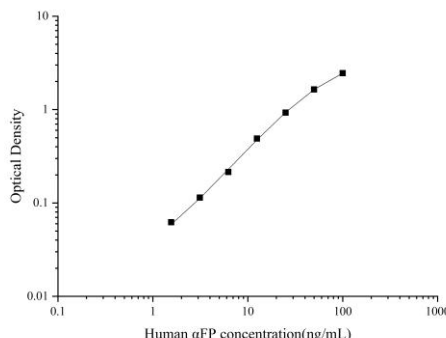




## Applications

### Human $\alpha$ FP Sandwich ELISA Assay:

	Recommended Concentration/Dilution	Reagent	Images																
ELISA Capture	0.5-4 $\mu$ g/mL	Human $\alpha$ FP Capture Antibody	 <p>The graph is a log-log plot of Optical Density versus Human <math>\alpha</math>FP concentration (ng/mL). The x-axis ranges from 0.1 to 1000 ng/mL, and the y-axis ranges from 0.01 to 10. The data points form a straight line, indicating a power-law relationship between concentration and optical density.</p> <table border="1"> <caption>Approximate data points from the standard curve</caption> <thead> <tr> <th>Human <math>\alpha</math>FP concentration (ng/mL)</th> <th>Optical Density</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.05</td></tr> <tr><td>2</td><td>0.1</td></tr> <tr><td>5</td><td>0.25</td></tr> <tr><td>10</td><td>0.5</td></tr> <tr><td>20</td><td>1.0</td></tr> <tr><td>50</td><td>2.5</td></tr> <tr><td>100</td><td>5.0</td></tr> </tbody> </table>	Human $\alpha$ FP concentration (ng/mL)	Optical Density	1	0.05	2	0.1	5	0.25	10	0.5	20	1.0	50	2.5	100	5.0
Human $\alpha$ FP concentration (ng/mL)	Optical Density																		
1	0.05																		
2	0.1																		
5	0.25																		
10	0.5																		
20	1.0																		
50	2.5																		
100	5.0																		
ELISA Detection	1:1000-1:10000	Human $\alpha$ FP Detection Antibody (Biotin)																	

**Note:** This standard curve is only for demonstration purposes. A standard curve should be generated for each assay!

## Background

alpha-Fetoprotein (AFP), is albuminoid superfamily protein that is synthesized in the fetus primarily by the liver, yolk sac, and tissues of gastrointestinal origin. It is one of the earliest markers of the hepatocyte lineage. AFP acts as a carrier protein for steroids, bilirubin, fatty acids, retinoids, and flavonoids. In addition, it can exert immunosuppressive activity, regulate cell proliferation and apoptosis, initiate intracellular signaling, and contribute to cell invasion. Altered levels of both fetal and maternal AFP have been associated with hypothyroidism, autoimmune disorders, and heart defects. Low maternal serum AFP levels are associated with a higher incidence of Down syndrome, whereas higher levels are associated with spina bifida and anencephaly. Elevated AFP levels are also coincident with liver, stomach, and germ cell cancers.