

## PrimeGene rStreptavidin & IVD Antigens

**PrimeGene** established at Shanghai, China in 2006 and became a subsidiary of Bio-Techne in 2014, is a leading provider of best value recombinant proteins with high quality and competitive price to serve domestic & overseas bio-reagent companies and research institutes. PrimeGene has 1900 square meters GMP-grade manufacturing facility with three Class 100K protein purification facilities, and one independent 120 square meters class 100 lyophilization room equipped with two lyophilization machines. Most of our products are manufactured under rigid control conditions, resulting in high purity, indisputable bio-activity and low endotoxin level, which can be widely used in basic research studies as well as diagnostic field. We have developed and manufactured more than 500 most demanding recombinant protein products for over twenty species.

Besides offering bulk packages, we also provide sub-packaging and lyophilization services as an OEM following our customers' special requirements. Our customer services range from gene cloning, protein expression, fermentation, protein purification, lyophilization to antibody preparation.

PrimeGene is ISO 9001 certified. The major applications of our products are cell therapy, culture media, cosmetic products, bioprocessing and IVD antigens.

## PrimeGene Recombinant Streptavidin

Natural Streptavidin (SA) is a 65 kDa homo-tetramers protein secreted by the bacterium *Streptomyces avidinii*. Like avidin (AV), SA's activity center is dependent on tryptophan. Its  $K_a$  can reach  $10^{15}$  mol/L.

The N and C termini of the full-length protein are processed to give a shorter 'core' streptavidin. This is necessary to ensure the recombinant protein's high biotin binding affinity. PrimeGene's recombinant streptavidin exhibits good tolerance towards organic solvents, denaturants (ex: guanidine hydrochloride), detergents (ex: SDS, Triton), proteolytic enzymes, and extreme temperatures and pH. As a result, our products are widely used in molecular biology, biological nanotechnology, as well as protein purification and characterization.

### Advantages

- Biotin combining ability: > 17 U/mg protein
- High purity: Single band by SDS-PAGE, ≥ 98 % by SEC-HPLC analysis
- Stable quality: Produced by GMP level work shop and low lot difference
- Products in stock: Ability to produce kilogram-level quantities of desired protein

### ■ Specification

Project	Content
Molecular weight	About 52kDa
Biotin combining ability	>17 U/mg (one unit binds 1 µg D-biotin at pH 8.9)
Physical appearance	Sterile Filtered White lyophilized powder.
Purity	Single band by SDS-PAGE, ≥ 98 % by SEC-HPLC analysis
$K_a$	$10^{15}$ M
Isoelectric point	6.8 - 7.5
Solubility	Clearly soluble in dd H <sub>2</sub> O ( $OD_{405} < 0.1$ at 10 mg/ml water), $C_{max} = 20$ mg/ml water
Endotoxin	Less than 0.1 EU/µg of rStreptavidin as determined by LAL method.

Cat. #	Product	Size A	Size B	Size C
1005-01	rStreptavidin	1mg	5mg	1g

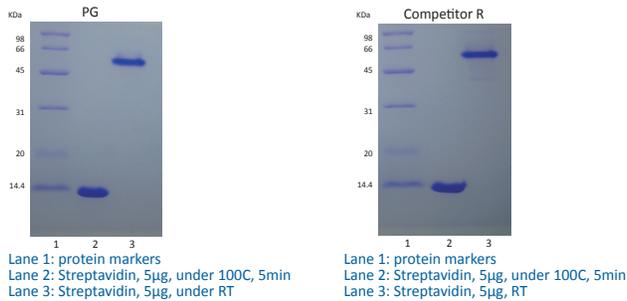


Certification

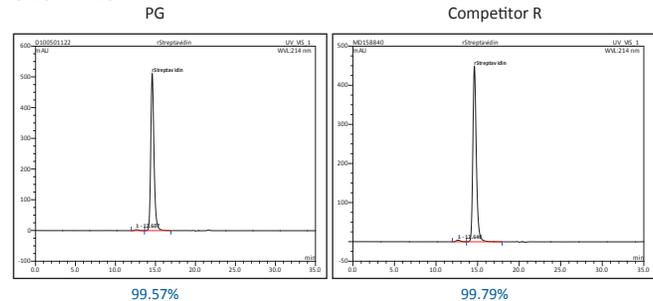
## Comparison data

Items	Standard	PG(1005-01)	Competitor R(MD158840)
Solubility(20mg/ml)	Clear	Clear	Clear
OD405(10mg/ml)	<0.1	0.042	0.694
Protein Concentration	0.9-1.1mg/ml	1.04mg/ml	1.06mg/ml
SDS-PAGE	>98%	100%	100%
SEC-HPLC	>98%	99.57 %	99.79 %
Activity (HABA Binding Assay)	>17U/mg	18.4 U/mg	19.26 U/mg

### SDS-PAGE



### SEC-HPLC



## PrimeGene IVD Antigens

### Recombinant Human Apolipoprotein-Serum Amyloid A1 (rHuApo-SAA1)

Serum amyloid A-1 protein which belongs to the SAA family is encoded by the SAA1 gene in humans. It is expressed by the liver and secreted in plasma. Serum amyloid A-1 is the major acute phase reactant and apolipoprotein of the HDL complex. Elevated serum SAA1 protein levels may be associated with lung cancer. The level of Apo-SAA1, normally 1-5 µg/ml in plasma, increases 500-1000 fold within 24 hours of an inflammatory stimulus and, under these conditions, is the most abundant HDL Apo-lipoprotein. Recombinant human Apo-SAA1 is an 11.7 kDa protein containing 104 amino acid residues.

### Recombinant Human Apolipoprotein A-I (rHuApoA-I)

Apolipoprotein A-I participates in the reverse transport of cholesterol from tissues to the liver for excretion by promoting cholesterol efflux from tissues and by acting as a cofactor for the lecithin cholesterol acyltransferase (LCAT).

### Recombinant HBV Surface Antigen-preS1 (rHBsAg-preS1)

Hepatitis B virus (HBV) is a human pathogen, causing serious liver disease. The HBV surface protein antigens (HBsAg) are comprised of three carboxyl co terminal HBs proteins termed large (LHBs), middle (MHBs) and small (SHBs, also called major) protein. LHBs and MHBs also share the highly hydrophobic, repetitive, membrane spanning S domain. In addition, LHBs has a 119 amino acid region called preS1.

### Recombinant HBV Surface Antigen-preS2 (rHBsAg-preS2)

Hepatitis B virus (HBV) is a human pathogen, causing serious liver disease. The HBV surface protein antigens (HBsAg) are comprised of three carboxyl co terminal HBs proteins termed large (LHBs), middle (MHBs) and small (SHBs, also called major) protein. LHBs and MHBs also share the highly hydrophobic, repetitive, membrane spanning S domain. In addition, MHBs has a 55 amino acid region called preS2.

### Recombinant Human Endocrine Gland-derived Vascular Endothelial Growth Factor (rHuEG-VEGF)

Endocrine gland-derived vascular endothelial growth factor (EG-VEGF), also called prokineticin 1 (PK1), is a member of the prokineticin family of secreted proteins that share a common structural motif containing ten conserved cysteine residues that form five pairs of disulfide bonds.

## Product List

Product Name	Cat. #	Size
Recombinant Streptolysin O, Bacterium	6A6-04	50µg/250µg/1000µg
Recombinant Apo-SAA/SAA1, Human	602-26	10µg/50µg/1000µg
Recombinant GH, Human	301-01	20µg/100µg/1000µg
Recombinant IL-6, Human	101-06	5µg/20µg/1000µg
Recombinant HBsAg preS1	672-01	10µg/50µg/1000µg
Recombinant HBsAg preS2	672-02	10µg/50µg/1000µg
Recombinant Apo A-I, Human	602-19	20µg/100µg/1000µg
Recombinant EG-VEGF, Human	105-30	2µg/10µg/1000µg

More products for IVD antigens, please log on our website: [www.PrimeGene.com](http://www.PrimeGene.com)

**PrimeGene**<sup>™</sup>  
a biotechnne brand

### Business

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### Manufacture Site

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