abcam

Product datasheet

SMN ELISA kit ab136947

2 Images

Overview

Product name SMN ELISA kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
928 pg/ml	20			0.8%
322 pg/ml	20			1.1%
122 pg/ml	20			3.2%

Inter-assay

Sample	n	Mean	SD	CV%
983 pg/ml	12			7.1%
378 pg/ml	12			8.9%
134 pg/ml	12			11.4%

Sample type Tissue Extracts, Cell Lysate

Assay type Sandwich (quantitative)

Sensitivity 50 pg/ml

Range 50 pg/ml - 3200 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Human PBMC Lysate		79% - 134%
Mouse brain extract		83% - 112%
Mouse muscle extract		76% - 146%

Sample type	Average %	Range
Mouse spinal cord extract		39% - 69%

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Mouse, Human

Product overview Abcam's SMN ELISA (Enzyme-Linked Immunosorbent Assay) kit is an *in vitro* enzyme-linked immunosorbent assay for the quantitative measurement of SMN in Human and mouse cell and tissue extracts.

An anti-Human SMN antibody is precoated onto 96-well plates, standards or test samples are added to the wells and incubated at room temperature. The wells are washed and a polyclonal detector antibody specific to SMN is added, followed by incubation at room temperature. After further washing, a horseradish peroxidase (HRP) conjugated anti-species antibody is added to each well and incubated at room temperature. After incubation the excess reagents are washed away. TMB substrate is added to each well and after a short incubation the enzyme reaction is stopped and the yellow color generated is read at 450 nm. The intensity of the yellow coloration is directly proportional to the amount of SMN captured in the plate.

Notes Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform Microplate

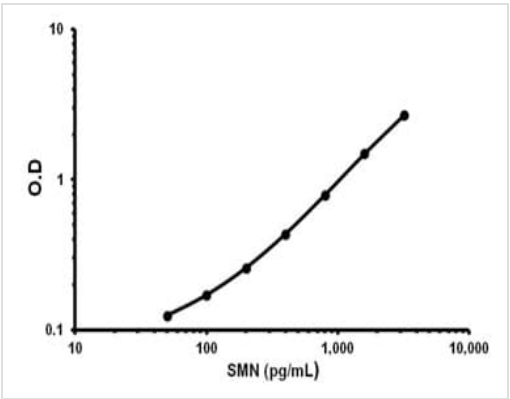
Properties

Storage instructions Please refer to protocols.

Components	1 x 96 tests
20X Wash Buffer Concentrate	1 x 100ml
Anti-rabbit IgG-HRP conjugate	1 x 10ml
Assay Buffer 13	1 x 100ml
Extraction Reagent 4	1 x 100ml
Human SMN Standard	2 vials
Microplate coated with anti-SMN monoclonal antibody (12 x 8 wells)	1 x 96 tests
Plate Sealer	1 x 3 units
Rabbit polyclonal anti-Human SMN antibody	1 x 10ml
Stop Solution 2	1 x 10ml
TMB Substrate	1 x 10ml

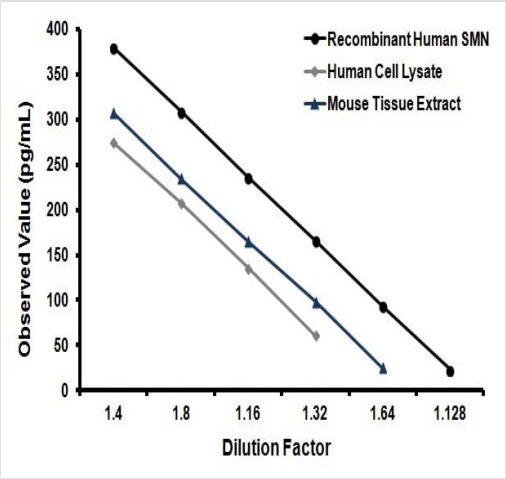
Function	The SMN complex plays an essential role in spliceosomal snRNP assembly in the cytoplasm and is required for pre-mRNA splicing in the nucleus. It may also play a role in the metabolism of snoRNPs.
Tissue specificity	Expressed in a wide variety of tissues. Expressed at high levels in brain, kidney and liver, moderate levels in skeletal and cardiac muscle, and low levels in fibroblasts and lymphocytes. Also seen at high levels in spinal cord. Present in osteoclasts and mononuclear cells (at protein level).
Involvement in disease	Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 1 (SMA1) [MIM:253300]. Spinal muscular atrophy refers to a group of neuromuscular disorders characterized by degeneration of the anterior horn cells of the spinal cord, leading to symmetrical muscle weakness and atrophy. Autosomal recessive forms are classified according to the age of onset, the maximum muscular activity achieved, and survivorship. The severity of the disease is mainly determined by the copy number of SMN2, a copy gene which predominantly produces exon 7-skipped transcripts and only low amount of full-length transcripts that encode for a protein identical to SMN1. Only about 4% of SMA patients bear one SMN1 copy with an intragenic mutation. SMA1 is a severe form, with onset before 6 months of age. SMA1 patients never achieve the ability to sit. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 2 (SMA2) [MIM:253550]. SMA2 is an autosomal recessive spinal muscular atrophy of intermediate severity, with onset between 6 and 18 months. Patients do not reach the motor milestone of standing, and survive into adulthood. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 3 (SMA3) [MIM:253400]. SMA3 is an autosomal recessive spinal muscular atrophy with onset after 18 months. SMA3 patients develop ability to stand and walk and survive into adulthood. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 4 (SMA4) [MIM:271150]. SMA4 is an autosomal recessive spinal muscular atrophy characterized by symmetric proximal muscle weakness with onset in adulthood and slow disease progression. SMA4 patients can stand and walk.
Sequence similarities	Belongs to the SMN family. Contains 1 Tudor domain.
Cellular localization	Cytoplasm. Nucleus > gem. Localized in subnuclear structures next to coiled bodies, called Gemini of Cajal bodies.

Images



Typical Standard Curve

Representative Standard Curve using ab136947.



Typical Parallelism Graph

A parallelism experiment was carried out to determine if the recombinant Human SMN standard accurately determines SMN concentrations in biological matrices. To assess parallelism, values for Human PBMC lysate and mouse tissue extract was obtained from a standard curve using four parameter logistic curve fitting. The observed concentration was plotted against the dilution factor. Parallelism of the curves demonstrates that the antibody binding characteristics are similar enough to allow the accurate determination of analyte levels in diluted samples.

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