GCLC siRNA – Glutamate--Cysteine Ligase Catalytic Subunit (Rat)

PRODUCT OVERVIEW

Product Name	GCLC, siRNA
Full Product Name	GCLC siRNA (Rat)
Product Gene Name	GCLC sirna
Product Synonym Names	GLCLC; Glutamate--cysteine ligase catalytic subunit; GCS heavy chain; Gamma-ECS; Gamma-glutamylcysteine synthetase
Host	Synthetic
Species Reactivity	Rat
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	GCLC siRNA (Rat) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	72,619 Da
3D Structure	ModBase 3D Structure for P19468
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of rat GCLC gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for GCLC sirna	RNA Interference (RNAi)
Related Product Information for GCLC sirna	MBS828107 is an siRNA targeting GCLC. Also known as GCLC siRNA (Rat). Reactive in Rat. Host: Synthetic. siRNA to inhibit GCLC expression using RNA interference
Other Notes	Small volumes of GCLC sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GCLC. It may not necessarily be applicable to this product.

NCBI GI #	25742748

NCBI GeneID	25283
NCBI Accession #	NP_036947.1
UniProt Primary Accession #	P19468
UniProt Related Accession #	P19468
GenBank Nucleotide #	NM_012815.2
NCBI Official Full Name	glutamate--cysteine ligase catalytic subunit
NCBI Official Synonym Full Names	glutamate-cysteine ligase, catalytic subunit
NCBI Official Symbol	Gclc
NCBI Official Synonym Symbols	Glclc
UniProt Protein Name	Glutamate--cysteine ligase catalytic subunit
UniProt Synonym Protein Names	GCS heavy chain; Gamma-ECS; Gamma-glutamylcysteine synthetase
Protein Family	Glutamate--cysteine ligase
UniProt Gene Name	Gclc
UniProt Synonym Gene Names	Glclc
UniProt Entry Name	GSH1_RAT
NCBI Protein Information	glutamate--cysteine ligase catalytic subunit
NCBI Summary for GCLC	catalyzes the first step in the synthesis of glutathione [RGD, Feb 2006]
UniProt Comments for GCLC	GCLC: Defects in GCLC are the cause of hemolytic anemia (HAGGSD). Belongs to the glutamate--cysteine ligase type 3 family. Protein type: Other Amino Acids Metabolism - glutathione; EC 6.3.2.2; Ligase Cellular Component: glutamate-cysteine ligase complex; cytosol Molecular Function: glutamate binding; protein heterodimerization activity; glutamate-cysteine ligase activity; magnesium ion binding; ADP binding; coenzyme binding; ATP binding Biological Process: glutamate metabolic process; response to arsenic; response to hormone stimulus; L-ascorbic acid metabolic process; response to xenobiotic stimulus; response to nitrosative stress; cysteine metabolic process; apoptotic mitochondrial changes; glutathione metabolic process; response to heat; cell redox homeostasis; positive regulation of proteasomal ubiquitin-dependent protein catabolic process; glutathione biosynthetic process; negative regulation of protein ubiquitination; negative regulation of neuron apoptosis; response to oxidative stress; negative regulation of transcription, DNA-dependent; regulation of blood vessel size; regulation of mitochondrial depolarization; negative regulation of apoptosis
Research Articles on GCLC	**1.** in diabetic retinopathy, histone methylation at Gclc-ARE4 plays an important role in regulating the Nrf2-Gclc-GSH cascade.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
Disclaimer	While every efforts were made to ensure the accuracy of the information provided in this datasheet, MyBioSource will not be liable for any omissions or errors contained herein. MyBioSource reserves the right to make changes to this datasheet at any time without prior notice. It is the responsibility of the customer to report product performance issues to MyBioSource within 30 days of receipt of the product. Please visit our Terms & Conditions page for more information.

Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

MyBioSource | Tel: +1.858.633.0165 | Fax: +1.858.633.0166 | mybiosource.com/contact-us
Online datasheet: https://www.mybiosource.com/rat-sirna/gclc/828107