{

"@context": "http://schema.org/",

"@type": "LabProtocol",

"additionalType", "http://purl.org/net/SMARTprotocol#ExperimentalProtocol",

"name": "RNA Isolation from Synechocystis",

"identifier": "https://doi.org/10.21769/BioProtoc.1428",

"license": "https://creativecommons.org/licenses/by/4.0/",

"keywords": ["Microbiology", "Molecular Biology"],

"isPartOf": {

"@type": "ScholarlyArticle",

"name": "bio-protocol",

"@id": "http://www.bio-protocol.org/e1428"

},

"purpose": "This protocol describes the steps involved in the whole mount processing of mouse eyes for visualization of the retinal vasculature.",

"structuralElement": {

"@type": "CreativeWork",

"additionalType": "http://purl.org/net/SMARTprotocol#AdvantageOfTheProtocol",

"name": "advantage of the protocol",

"text": "We describe a fast, efficient and economic in-house protocol for..."

},

"structuralElement": {

"@type": "CreativeWork",

"additionalType": "http://purl.org/net/SMARTprotocol#LimitationOfTheProtocol",

"name": "limitation of the protocol",

"text": "A major problem faced both in this and other transformation studies is...",

},

"structuralElement": {

"@type": "CreativeWork",

"additionalType": "http://purl.org/net/SMARTprotocol#ApplicationOfTheProtocol",

"name": "application of the protocol",

"text": "RNA isolated by this method can be used for Northern blot hybridization, RT-qPCR, microarrays and Next Generation Sequencing."

},

"structuralElement": {

"@type": "CreativeWork",

"additionalType": "http://purl.org/net/SMARTprotocol#OutcomeOfTheProtocol",

"name": "outcome of the protocol",

"Text": "The yield of RNA depends on optical density of cyanobacterial culture and may reach up to 10-20 µg of total RNA per 1 ml of cell culture."

},

"sample": [

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.bioontology.org/ontology/NCBITAXON/1148",

"name": {

"@language": "en",

"@value": "Synechocystis sp. PCC 6803"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.bioontology.org/ontology/NCBITAXON/1140",

"name": {

"@language": "en",

"@value": "Synechococcus elongatus PCC 7942"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.bioontology.org/ontology/NCBITAXON/269084",

"name": {

"@language": "en",

"@value": "Synechococcus elongatus PCC 6301"

}

}

],

"reagent": [

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHEBI\_16236",

"name": {

"@language": "en",

"@value": "95% ethanol"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://ncicb.nci.nih.gov/xml/owl/EVS/Thesaurus.owl#C62218",

"name": {

"@language": "en",

"@value": "70% ethanol"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHEBI\_15882",

"name": {

"@language": "en",

"@value": "Phenol"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHMO\_0001755",

"name": {

"@language": "en",

"@value": "Tris-HCl"

}

},

{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "0.5 M EDTA-Na2 (pH 8.0)"

}

},

{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "RNase-free autoclaved water"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHEBI\_35255",

"name": {

"@language": "en",

"@value": "Chloroform"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHEBI\_48607",

"name": {

"@language": "en",

"@value": "lithium chloride solution"

}

},

{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "RNAse-free DNAse"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHEBI\_2511",

"name": {

"@language": "en",

"@value": "Agarose"

}

},

{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "TAE electrophoresis buffer"

}

},

{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "RNA ladder"

}

},

{

"@type": "PhysicalEntity",

"additionalType": "http://purl.obolibrary.org/obo/CHMO\_0002069",

"name": {

"@language": "en",

"@value": "TE buffer"

}

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{

"@type": "PhysicalEntity",

"name": {

"@language": "en",

"@value": "Cell fix solution"

}

}

],

"instrument": [

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "Saran wrap"

}

},

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "Autoclave bag"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.org/net/SMARTprotocol#MicrocentrifugeTube",

"name": {

"@language": "en",

"@value": "Safe-Lock tubes, 2.0 ml"

}

},

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "50 ml plastic conical polypropylene tubes"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/OBI\_0001112",

"name": {

"@language": "en",

"@value": "Autoclave"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/ERO\_0000245",

"name": {

"@language": "en",

"@value": "Refrigerated centrifuge"

}

},

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "Refrigerated microcentrifuge"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/OBI\_0400155",

"name": {

"@language": "en",

"@value": "Water bath"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/ERO\_0000980",

"name": {

"@language": "en",

"@value": "Subzero refrigerators"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/ERO\_0000438",

"name": {

"@language": "en",

"@value": "Fume hood"

}

},

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "Ice bath"

}

},

{

"@type": "Thing",

"name": {

"@language": "en",

"@value": "Multi tube automated vortex"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/OBI\_0400115",

"name": {

"@language": "en",

"@value": "UV-spectrophotometer (preferably, Nanodrop)"

}

},

{

"@type": "Thing",

"additionalType": "http://purl.obolibrary.org/obo/OBI\_0001134",

"name": {

"@language": "en",

"@value": "Agarose gel electrophoresis equipment"

}

}

],

"citation": [

{

"@id": "https://www.ncbi.nlm.nih.gov/pubmed/10937442",

"@type": "ScholarlyArticle",

"name": {

"@language": "en",

"@value": "Expression of the gene for the delta9 acyl-lipid desaturase in the thermophilic cyanobacterium"

}

},

{

"@id": "https://www.ncbi.nlm.nih.gov/pubmed/24703081",

"@type": "ScholarlyArticle",

"name": {

"@language": "en",

"@value": "Cold-induced gene expression and ω(3) fatty acid unsaturation is controlled by red light in Synechocystis."

}

},

{

"@id": "https://www.ncbi.nlm.nih.gov/pubmed/3148836",

"@type": "ScholarlyArticle",

"name": {

"@language": "en",

"@value": "Isolation and purification of cyanobacteria"

}

},

{

"@id": "http://www.molecularcloning.com/",

"@type": "Book",

"name": {

"@language": "en",

"@value": "Molecular Cloning: A Laboratory Manual (Fourth Edition)"

}

},

{

"@id": "https://www.ncbi.nlm.nih.gov/pubmed/7541909",

"@type": "ScholarlyArticle",

"name": {

"@language": "en",

"@value": "A family of cold-regulated RNA-binding protein genes in the cyanobacterium Anabaena variabilis M3"

}

}

]

}