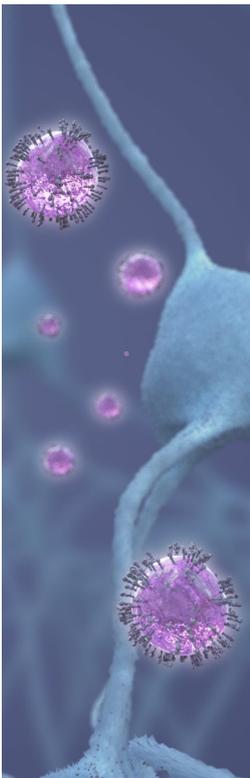




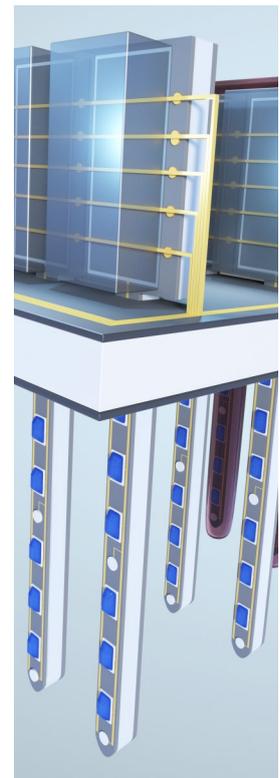
Lighting the Way to a New Epilepsy Treatment

Optogenetics Wordsearch

Hidden in the grid below are sixteen words with links to the CANDO project. See if you can find them all. They could be forwards, backwards, up, down or even diagonal.



S	M	E	C	S	I	D	E	F	C	V	E	N	E	L
U	C	L	X	S	N	D	S	U	C	O	F	O	L	O
G	R	I	R	P	O	O	R	P	I	D	L	I	E	R
J	F	F	T	R	R	D	R	L	T	L	B	T	C	T
F	V	D	T	E	Q	E	W	U	C	X	R	C	T	N
I	M	P	L	A	N	T	S	T	E	O	O	U	R	O
O	O	N	C	E	B	E	R	S	T	N	G	D	O	C
D	P	D	T	R	T	A	G	C	I	F	Q	S	D	L
C	H	S	A	C	N	W	E	O	K	O	W	N	E	I
D	N	I	I	S	E	V	N	P	T	B	N	A	S	G
Z	N	B	G	N	L	J	W	N	A	P	E	R	V	H
U	V	E	X	A	S	H	T	J	J	Y	O	T	X	T
O	N	A	R	S	T	I	M	U	L	A	T	I	O	N
E	K	I	L	Y	S	P	E	L	I	P	E	K	H	O
N	V	C	V	L	Q	O	E	L	P	B	T	N	I	J



Brain	Control	Electrodes	Epilepsy
Expression	Focus	Implant	Light
Neurons	Opsins	Optogenetics	Optrode
Stimulation	Tranduction	Transgene	ViralVector



Word	Why does it link to Optogenetics?
Brain	The organ contained within the skull functioning as the coordination centre of sensation and intellectual and nervous activity
Control	The manipulation of brain activity in order to prevent the development of abnormal activity and the development of seizures
Electrodes	A conductor used to monitor the electrical activity of the brain, allowing the detection of abnormal patterns by comparing against an algorithm
Epilepsy	A neurological disorder marked by sudden recurrent episodes of sensory disturbance, loss of consciousness, or convulsions, associated with abnormal electrical activity in the brain
Expression	The process by which information from the transgene is used in the production of a functional opsin protein
Focus	The area of the brain where a seizure begins, or where the abnormal electrical activity originates
Implant	A device inserted into the brain capable of monitoring and recognising abnormal electrical activity and delivering light therapy to restore normal activity
Light	Delivered to brain cells through LEDs to control neuronal activity through the activation of opsin channels
Neurons	Specialized cells within the brain for transmitting nerve impulses
Opsins	Light-sensitive proteins capable of converting a photon of light into an electrochemical signal
Optogenetics	A technique in neuroscience in which genes for light-sensitive proteins called opsins are introduced into neurons in order to monitor and control their activity precisely using light signals
Optrode	The combination of optical and electrical elements in a single probe that is inserted into the brain
Stimulation	The activation of neurons in the brain via light from LEDs on the brain implant
Transduction	The transfer of genetic information for opsins into neurons by a genetic vector
Transgene	A gene that has been transferred from one organism to another. In the case of CANDO, the gene for the chosen opsin from algae to neuronal cells
Viralvector	Modified viruses capable of safely delivering genetic material into cells



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Optogenetics Wordsearch Solution

