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(54) Title: EXPRESSION CASSETTES FOR TREATING EPILEPSY AND NEUROPATHIC PAIN

Cassette #	SEQ ID NO:	5' Enhancer	Non-Neuron Silencing Element	Promoter	Intron	5' UTR	Intron	Transgene	3' Enhancer	3' UTR	PolyA
1	71	CMV		mMecp2			hTPI	CODA-R	FullEES		rβGlobin
2	72	CMV		msCaMKIIa		mCaMKII	TPL+eMLP	CODA-R	FullEES		rβGlobin
3	73	CMV		hSyn		hSyn	hTPI	CODA-R	FullEES		rβGlobin
4	74	CMV		hMecp2			TPL+eMLP	CODA-R	511-810EES		rβGlobin
5	75	CMV		hCaMKIIa		hCaMKII	TPL+eMLP	CODA-R	511-810EES		rβGlobin
6	76	CMV		hyEnolase			TPL+eMLP	CODA-R	511-810EES		rβGlobin
7	77	CMV	NRSE	cβActin	cβAct+gGlob	fGlob		CODA-R	511-810EES		rβGlobin
8	78	CMV		hPDGFB			hSyn	CODA-R	511-810EES		rβGlobin
9	79	CMV		mMecp2			hSyn	CODA-R	WPREx	αGlobin	hGH
10	80	CMV		msCaMKIIa		mCaMKII-V2	hCMV+gGlob	CODA-R	WPREx	αGlobin	hGH
11	81	CMV		hSyn		hSyn	hSyn	CODA-R	WPREx	αGlobin	hGH
12	82	CMV		hMecp2			hCMV+gGlob	CODA-R	WPREx	αGlobin	hGH
13	83	CMV		hCaMKIIa		hCaMKII	hCMV+gGlob	CODA-R	WPREx	αGlobin	hGH
14	84	CMV		hyEnolase			hCMV+gGlob	CODA-R	WPREx	αGlobin	hGH
15	85	CMV	NRSE	cβActin	cβAct+gGlob	fGlob		CODA-R	WPREx	αGlobin	hGH
16	86	CMV		hPDGFB				CODA-R	WPREx	αGlobin	hGH
17	87	CMV		cβActin	cβAct+gGlob	fGlob		CODA-R	511-810EES		rβGlobin
18	88	CMV-V2		hSyn-V2				CODA-R	WPREx-V2		hGH-V2
19	89			hSyn-V2				CODA-R	WPREx-V2		hGH-V2
20	90	CMV-V3	NRSE*	CMV				CODA-R	WPREx-V2		bGH
21	91	CMV-V3		CMV				CODA-R	WPREx-V2		bGH
23	92	CMV-V2		hCaMKIIa				CODA-R	WPREx-V2		hGH-V2
24	93	CMV-V2		hsCaMKIIa				CODA-R	WPREx-V2		hGH-V2

FIG. 1

(57) Abstract: The present disclosure provides expression cassettes, vectors and methods for expressing a transgene in a cell, e.g., a neuron. Further provided are methods of achieving desirable expression level of a transgene in a neuron cell, e.g., for use in combination with a small molecule ligand to treat focal epilepsy or neuropathic pain.

[Continued on next page]

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