PROGRAM PROJECT GOAL PHASE 1: DEFINE TRIPARTITE SYNAPSE AT THE GENOMIC LEVEL IN MOUSE

Level of analysis	Team 1a	Team 1b	Team 2	Team 3a	Team 3b
1. define molecular exchange	Glutamate cycling	Spatal buffering of K+	NADH transport	Glutamine transporter	Glutamate transporter
2. ID key gene products	SLC1A3	KCNJ10	ID transporter	SN1	VGlut (which one)
3. Assess specificity	Astrocyte specific? High affinity?	?	?	?	?
4. genomic analysis	Accession #?	Accession #?	Accession #?	Accession #?	Accession #?
5. localization	ICC	ICC	Tag NADH, imaging to localize	In situ, immuno	In situ, immuno
6. function	Pharmacol block, predict hyperexcitability	Pharmacol block, predict hyperexcitability:ephys measure of Vm	Transgenic with conditional KO of transporter—specificity will be critical: in vitro model unclear	RNA knockdown in culture	
7. caveats			General metabolism		
8.pitfalls					
9. design comparative analysis					
10. cost	31K	31K	$31K	$32K	$32K

PROGRAM PROJECT GOAL PHASE 1: DEFINE TRIPARTITE SYNAPSE AT THE GENOMIC LEVEL IN MOUSE

Level of analysis	Team 4	Team 4b	Team 5a
1. define molecular exchange	Pyruvate transporter (astrocytic export)	Pyruvate transporter Neuronal import	Monocarboxylate transporters Lactate
2. ID key gene products	?	?	ID transporter
3. Assess specificity	?	?	?
4. genomic analysis	Accession #?	Accession #?	Accession #?
5. localization	ICC	ICC	ICC (LM,EM)
6. function	Pharmacol inhibition, ephys measures Pulse chase metabolic labeling of pyruvate	Pharmacol inhibition, ephys measures Pulse chase metabolic labeling of pyruvate	In vivo transgenic with tissue-specific promoter (mean cell-type specific?) Behavioral analysis of KO Tissue culture (apoptosis, slice ephys + rescue)
7. caveats			
8.pitfalls			
9. design comparative analysis			
10. cost	31K	31K	$$75K (per gene?)