

Cara Therapeutics (CARA - \$16.64)

CR845 Checking Off Safety Boxes, Imminent Late-stage Data

This morning before the open, CARA announced in a quantitative Phase 1 trial measuring respiratory safety that IV CR845 did not significantly differ from placebo across three quantitative measures of respiratory drive. With respiratory depression representing the deadliest side effect of traditional mu opioid receptors, we see this additional safety information as strong reinforcement of CARA's unique mechanism of action (targeting peripheral kappa opioid receptors). More specifically, we see as a real positive the lack of alteration at 5.0ug/kg, which is 5X the projected therapeutic dose. CARA still expects Phase 3 IV CR845 for post-operative pain to read out this quarter. As a reminder this trial had dropped their 5ug/kg and 2.5 ug/kg dosing arm following their quickly resolved clinical hold back in 1Q16. However, we like the 1ug/kg arm's chances of success as CARA showed good receptor occupancy in the uremic pruritus trial. We also expect oral CR845 data for hip/knee osteoarthritis (OA) and PK Phase 1 data in their oral CR845 for general pruritus this quarter. With opioid safety being a top priority and many more important catalysts to come, we are reiterating our Buy rating and \$35 PT.

- 1. Encouraging safety data, bring on the late-stage data.** At one hour post-administration, end-tidal CO₂ (ETCO₂) for placebo, CR845 1.0ug/kg and CR845 5.0ug/kg were statistically equivalent at 38.1+/-2.8, 38.3+/-3.1 and 38.3+/-2.9mmHg, respectively. Oxygen Saturation (SpO₂) and respiratory rate were also monitor and showed no statistically significant differences from placebo. We are encouraged by this additional safety data and look forward to Phase 3 part 1 data for IV CR845 in post-operative pain this quarter.
- 2. Data is the main theme for 2017 at CARA.** With IV CR845 for uremic pruritus (UP) hitting statistical significance at the end of 1Q17, we still expect Phase 3 IV CR845 for post-op pain and Phase 2b oral CR845 for hip/knee OA pain data as well as Phase 1 oral CR845 for UP this quarter. We see significant value in these programs as CR845 could be as effective as Oxycontin in a Schedule 5 (or even unscheduled).
- 3. Reiterate Buy rating, \$35 price target.** We value CARA on a sum-of-the-parts: IV CR845 for pruritus: \$14/share, IV/oral post-op pain: \$12/share, oral pruritus: \$7/share, and cash (end '17) and tech: \$2/share.

Earnings Estimates: (per share)

(Dec)	1Q	2Q	3Q	4Q	FY	P/E
FY-18E	NA	NA	NA	NA	(1.88)	NA
FY-17E	(0.65)	(0.59)	(0.42)	(0.35)	(2.00)	NA
FY-16A	(0.39)	(0.48)	(0.42)	(0.81)	(2.10)	NA
FY-15A	(0.21)	(0.25)	(0.23)	(0.35)	(1.05)	NA

Healthcare/Biotechnology

Ticker:	CARA
Rating:	Buy
Price Target:	\$35

Trading Data:

Last Price (04/24/2017)	\$16.64
52-Week High (03/29/2017)	\$20.90
52-Week Low (06/27/2016)	\$4.35
Market Cap. (MM)	\$528.3
Shares Out. (MM)	31.7

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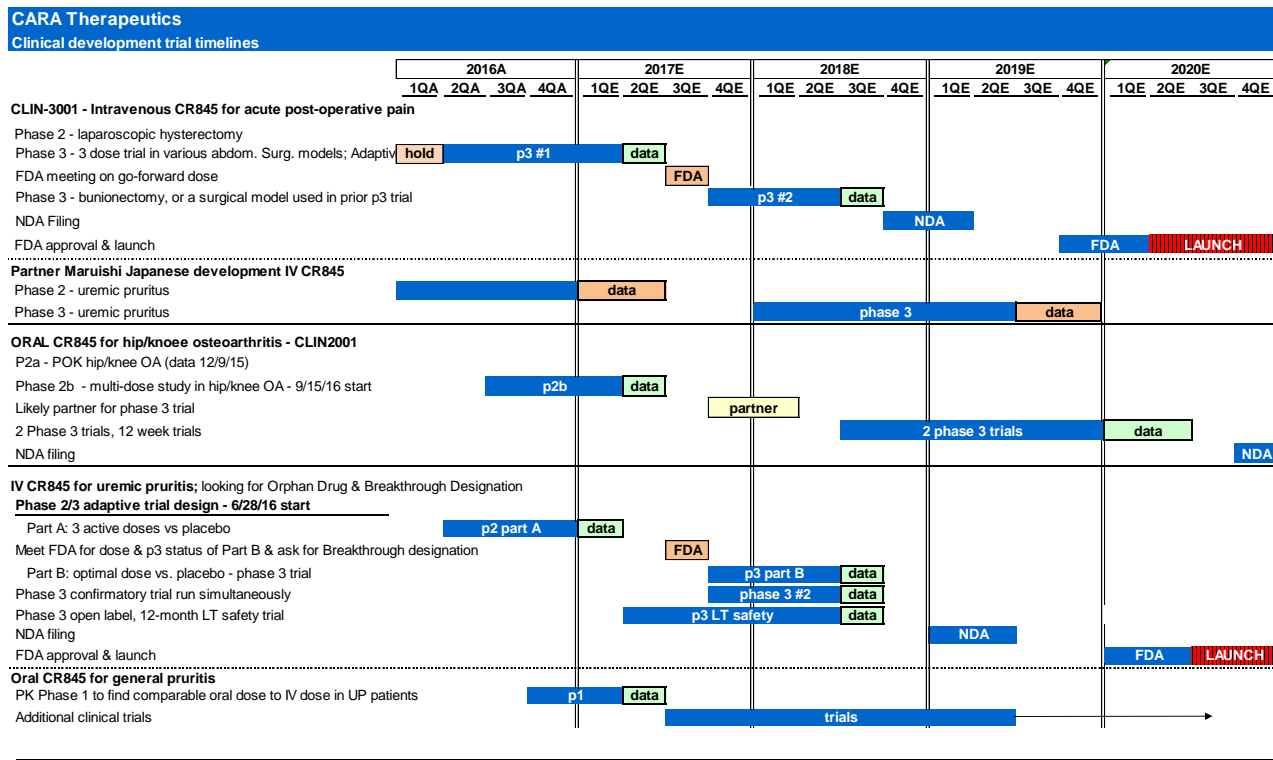
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Figure 1: Valuation

Sum-of-the-parts value: CARA		
Segment	Valuation (000's)	Per share value
CR845 - IV uremic pruritus	\$494,999	\$14.0
CR845 - IV post-op pain	\$310,093	\$9.0
CR845 - oral general pruritus	\$235,930	\$7.0
CR845 - oral OA pain	\$100,094	\$3.0
Cash (end '17) & tech value	\$55,063	\$2.0
	SUM \$1,196,179	\$35
Shares out '17E (000)		35,308

Source: Company presentation

Figure 2: Potential Clinical Timeline



Source: Laidlaw Estimates

Figure 3: Quarterly Income Statement

CARA Therapeutics										
Quarterly income statement										
(\$000 except per share)	2016A				2016A Year	2017E				2017E Year
	1QA	2QA	3QA	4QA		1QE	2QE	3QE	4QE	
Revenues										
License & milestones					\$0					
Collaborative revenues	\$7	\$79			86	\$750	\$750	\$750	\$750	3,000
Total Revenue	\$7	\$79	\$0	\$0	\$86	\$750	\$750	\$750	\$750	\$3,000
Expenses:										
Cost of Revenue (COGS)	-	-	-	-	-	-	-	-	-	-
Gross Margin	7	79	-	-	86	750	750	750	750	3,000
Research and development	8,546	10,760	9,671	20,277	49,254	20,000	18,000	12,000	9,750	59,750
General and administrative	2,447	2,645	2,102	2,038	9,232	2,000	2,250	2,750	3,000	10,000
Total operating expenses	10,993	13,405	11,773	22,315	58,486	22,000	20,250	14,750	12,750	69,750
Income (loss) from Operations	(10,986)	(13,326)	(11,773)	(22,315)	(58,400)	(21,250)	(19,500)	(14,000)	(12,000)	(66,750)
Interest income (expense), net	149	172	176	155	652	25	25	25	25	100
Other (exp) gain, net										
Income (loss) before taxes	(10,837)	(13,154)	(11,597)	(22,160)	(57,748)	(21,225)	(19,475)	(13,975)	(11,975)	(66,650)
Income tax exp (benefit)	(145)	(79)	(55)	(189)	(468)					
Net income (Loss)	(10,692)	(13,075)	(11,542)	(21,971)	(57,280)	(21,225)	(19,475)	(13,975)	(11,975)	(66,650)
Net income to common										
Earning per Share (EPS)	(\$0.39)	(\$0.48)	(\$0.42)	(\$0.81)	(\$2.10)	(\$0.65)	(\$0.59)	(\$0.42)	(\$0.35)	(\$2.00)
Adj EPS ex-1x & non-cash			(\$0.42)		(\$2.10)					
Weighted avg. shares (000)	27,260	27,283	27,283	27,291	27,279	32,408	33,008	33,608	34,208	33,308
Fully diluted shares (000)	29,474	29,540	29,582	30,712	29,827	34,408	35,008	35,608	36,208	35,308

Source: Company reports; Laidlaw & Company estimates.

Figure 4: Annual Income Statement

CARA Therapeutics						
Annual income statement						
(\$000 except per share)	2016A	2017E	2018E	2019E	2020E	Comments
Revenues						
CR845 - IV post-op pain					\$56,760	Interim data 2Q17
CR845 - IV Uremic pruritus			-	-	17,938	p2 data 1Q17
CR845 - oral hip/knee OA pain			-	-	-	p2b data 2Q17
License & milestones	\$0	-	-	-	-	Maruishi milestones here
Collaborative revenues	86	\$3,000	\$3,000	\$3,000	3,000	
Total Revenue	\$86	\$3,000	\$3,000	\$3,000	\$77,698	
Expenses:						
Cost of Revenue (COGS)	-	-	-	-	8,514	
Gross Margin	86	3,000	3,000	3,000	69,184	
R&D	49,254	59,750	60,500	58,250	50,500	
SG&A	9,232	10,000	10,750	11,000	30,000	50 reps in 2020
Total op exp	58,486	69,750	71,250	69,250	80,500	
Inc/(loss) from Ops	(58,400)	(66,750)	(68,250)	(66,250)	(11,316)	
Int income (exp), net	652	100	100	100	100	
Other expenses, net	-	-	-	-	-	
Inc/(loss) before taxes	(57,748)	(66,650)	(68,150)	(66,150)	(11,216)	
Income tax exp (benefit)	(468)	-	-	-	-	sig. tax loss carryforwards
Net income (Loss)	(\$57,280)	(\$66,650)	(\$68,150)	(\$66,150)	(\$11,216)	
Net income to common						
Earning per Share	(\$2.10)	(\$2.00)	(\$1.88)	(\$1.70)	(\$0.28)	
Adj EPS ex-1x & non-cash	(\$2.10)					
Weighted avg. shares (000)	27,279	33,308	36,308	38,808	40,308	
Fully diluted shares (000)	29,827	35,308	38,808	41,558	43,058	
Cash position	\$58,276	\$30,063	\$22,045	\$18,378	\$10,071	Additional raises 2017-2019

Source: Bloomberg LP; Company reports; Laidlaw & Company estimates.

Major Risks

Exogenous events could impact our outlook. We believe pharmaceutical companies have the least control over competitive, political, and regulatory risks. Although we have incorporated competitive assumptions into our forecasts, there may be other risks beyond the scope of our analysis. Changes in the drug reimbursement system, as well as any political or regulatory amendments, may significantly influence the earnings power of these companies.

Actual clinical results and the FDA's conclusions may deviate from expectations. Many of our assumptions are based on a review of incomplete clinical trial data available in the public domain. Often our conclusions are drawn from early stage data, which may not be reflected by pivotal studies. Furthermore, the FDA's conclusions may not coincide with our own, materially changing our revenue and earnings assumptions.

Compliance issues, product recalls, and other mandates by regulatory authorities could materially change our expectations. Regulatory compliance issues, ranging from accounting irregularities to defective manufacturing practices, could materially change our assumptions and earnings outlook. Unanticipated product recalls and labeling changes could also have adverse consequences on our earnings assumptions.

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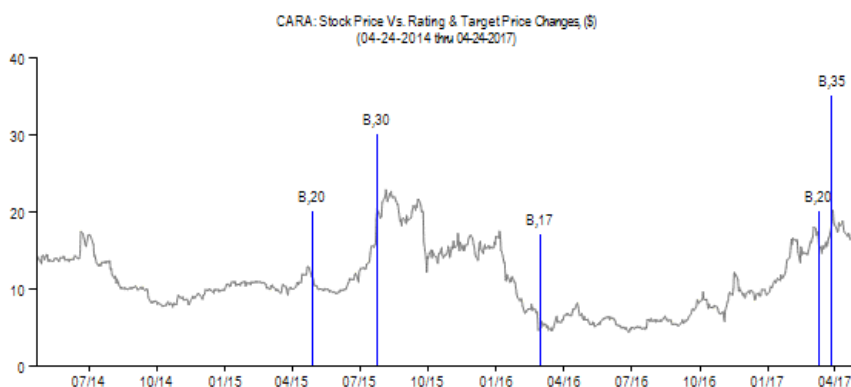
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Rating and Price Target Change History



3 Year Rating Change History

Date	Rating	Closing Price (\$)
04/28/2015	Buy (B)	11.59

3 Year Price Change History

Date	Target Price (\$)	Closing Price, (\$)
04/28/2015	20.00	11.59
07/24/2015	30.00	20.43
02/29/2016	17.00	4.92
03/10/2017	20.00	15.84
03/28/2017	35.00	19.09

Source: Laidlaw & Company

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			Investment Banking	Brokerage
Strong Buy (SB)	Expected to significantly outperform the sector over 12 months.	2.33%	2.33%	0.00%
Buy (B)	Expected to outperform the sector average over 12 months.	60.47%	27.91%	2.33%
Hold (H)	Expected returns to be in line with the sector average over 12 months.	0.00%	0.00%	0.00%
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