

## Sorrento Therapeutics (Nasdaq: SRNE)

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### BUY: IND Filing at FDA for COVI-AMG

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Sorrento announced an IND filing for STI-2020 (COVI-AMG™) for the treatment of COVID-19 in patients with mild symptoms and a separate safety and pharmacokinetic study in healthy volunteers. These initial trials are expected to be followed by pivotal trials with a goal of receiving an EUA (Emergency Use Authorization).

**STI-2020: What's the Data?** The IND is based on animal model data, specifically the "golden Syrian hamster" model. The animals were exposed to SARS-CoV-2 and demonstrated a highly effective neutralizing profile. The antibody has been engineered for what the company calls "ultra-high potency", with an expected effective dose in humans to be much lower than current known antibodies being assessed by others in active trials, which would allow for a simple IV-push administration that is suitable in the outpatient setting. This is a critical point as it points to manufacturing capacity (which could be large). Sorrento has initiated cGMP manufacturing to produce 100,000 doses, expected to be available early next year, in anticipation of a potential EUA.

**Is it Safe?** The antibody is engineered and has been validated in these preclinical studies to avoid antibody-dependent enhancement (ADE) to potentially increase the safety profile. Additional in vitro experiments demonstrated the complete virus neutralizing property of STI-2020 against the highly contagious D614G SARS-CoV-2 variant.

**Valuation.** We assume that the company successfully develops COVI-SHIELD (and non-opioid Pain Medication, RTX). We apply a probability of success of just 50%, but given the size of the indication, the valuation potential for COVID alone is significant. For Sorrento, we additionally apply a 30% discount rate. Our valuation conclusion is an equally weighted average of our FCFF, EPS, and sum-of-the-parts analysis rounded to the nearest whole number. We use an estimated fully diluted end-year share count (we assume a capital raise). The conclusion of this method is a \$21.00 price target.

**Risk to our thesis** includes the following: (1) commercial; (2) regulatory; (3) clinical; (4) manufacturing; (5) financial; (6) liability; and (7) intellectual property. We review these and other risks in the risk section of this report.

Current Price				\$6.98
Price Target				\$21.00
<b>Estimates</b>				
	F2020E	F2021E	F2022E	
Expenses (\$000s)	\$ 1,502,068	\$ 1,117,435	\$ 821,747	
1Q March	\$ 50,884	\$ 257,010	\$ 189,002	
2Q June	\$ 56,735	\$ 268,184	\$ 197,219	
3Q September	\$ 56,940	\$ 290,533	\$ 213,654	
4Q December	\$ 1,337,509	\$ 301,708	\$ 221,872	
	F2020E	F2021E	F2022E	
EPS (diluted)	\$ 10.75	\$ 6.67	\$ 3.93	
1Q March	\$ (0.36)	\$ 1.53	\$ 0.90	
2Q June	\$ (0.36)	\$ 1.60	\$ 0.94	
3Q September	\$ (0.25)	\$ 1.73	\$ 1.02	
4Q December	\$ 11.71	\$ 1.80	\$ 1.06	
EBITDA/Share	\$11.50	\$8.33	\$5.24	
EV/EBITDA (x)	0.7	0.9	1.5	
<b>Stock Data</b>				
52-Week Range	\$1.39	-	\$19.39	
Shares Outstanding (mil.)				255.1
Market Capitalization (mil.)				\$1,781
Enterprise Value (mil.)				\$1,759
Debt to Capital				0%
Book Value/Share				\$2.41
Price/Book				7.2
Average Three Months Trading Volume (K)				48,303
Insider Ownership				20.3%
Institutional Ownership				30.6%
Short interest (mil.)				21.2%
Dividend / Yield				\$0.00/0.0%



**COVID Model Assumptions:**

1. We assume that one million essential workers (U.S. & Europe) are candidates for COVID Prophylaxis and Treatment Products.
2. We assume pricing below Gilead's Remdesivir at \$4,000 per therapeutic course.
3. For modeling purposes, we apply a 50% probability of success. This is selected based on the early stage of development but also an acknowledgment that the product has shown promising data that should be predictive in man, and the desperate need to develop a countermeasure to COVID now, i.e., acknowledgment of Project Warp Speed, the U.S. Plan to develop a vaccine and/or antidote to Covid.

**Exhibit 1. COVID Models U.S. and Rest of World**

COVID19	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Target Population	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Population growth	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Population Coverage	100.00%	75.00%	50.00%	40.00%	30.00%	20.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Units Stockpiled	1,000,000	750,000	500,000	400,000	300,000	200,000	100,000	100,000	100,000	100,000	100,000
Average price per unit	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
Revenue ('000)	\$ 4,000,000	\$ 3,000,000	\$ 2,000,000	\$ 1,600,000	\$ 1,200,000	\$ 800,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Risk adjustment	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Total Revenue ('000)</b>	<b>\$ 2,000,000</b>	<b>\$ 1,500,000</b>	<b>\$ 1,000,000</b>	<b>\$ 800,000</b>	<b>\$ 600,000</b>	<b>\$ 400,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>

Source: Dawson James Estimates

COVID 19 ROW	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Target Population	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Population growth	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Population Coverage	100.00%	75.00%	50.00%	40.00%	30.00%	20.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Units Stockpiled	1,000,000	750,000	500,000	400,000	300,000	200,000	100,000	100,000	100,000	100,000	100,000
Units Purchased in Year	1,000,000	750,000	500,000	400,000	300,000	200,000	100,000	100,000	100,000	100,000	100,000
Average price per unit	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,000
Increase in Cost	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Revenue ('000)	\$ 4,000,000	\$ 3,000,000	\$ 2,000,000	\$ 1,600,000	\$ 1,200,000	\$ 800,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000
Risk adjustment	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Total Revenue ('000)</b>	<b>\$ 2,000,000</b>	<b>\$ 1,500,000</b>	<b>\$ 1,000,000</b>	<b>\$ 800,000</b>	<b>\$ 600,000</b>	<b>\$ 400,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>

Source: Dawson James estimates

**RTX Model Assumptions – Non-Opioid Pain Relief:**

1. We assume up to ten million people seek treatment for knee and other related pain relief in the U.S. and also in Rest of the World.
2. We assume pricing at \$5,000 per therapeutic course.
3. For modeling purposes, we apply a 50% probability of success. This is selected based on the ownership of Scilex.
4. For conservatism, we do not include chronic cancer pain and other indications, which could be realized once RTX is commercialized.

**Exhibit 2. Sciatca Models U.S. and Rest of World**

Non-Opioid Pain Relief USA	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Population	10,000,000	10,100,000	10,201,000	10,303,010	10,406,040	10,510,101	10,615,202	10,721,354	10,828,567	10,936,853	11,046,221
Increase in population	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Seeking Intervention	1,000,000	1,010,000	1,020,100	1,030,301	1,040,604	1,051,010	1,061,520	1,072,135	1,082,857	1,093,685	1,104,622
Market Penetration				4.00%	8.00%	12.00%	15.00%	15.00%	15.00%	20.00%	25.00%
Total patients treated	-	-	-	41,212	83,248	126,121	159,228	160,820	162,429	218,737	276,156
Average price per treatment		\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412	\$ 5,520	\$ 5,631	\$ 5,743
Increase in Cost		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parmer revenue ('000)	\$ -	\$ -	\$ -	\$ 206,060	\$ 424,566	\$ 656,083	\$ 844,870	\$ 870,385	\$ 896,671	\$ 1,231,667	\$ 1,586,080
Royalty or profit share (50%)	\$ -	\$ -	\$ -	\$ 103,030	\$ 212,283	\$ 328,041	\$ 422,435	\$ 435,193	\$ 448,335	\$ 615,834	\$ 793,040
Sorrento Ownership adjustment		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Total Revenue ('000)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 51,515</b>	<b>\$ 106,142</b>	<b>\$ 164,021</b>	<b>\$ 211,218</b>	<b>\$ 217,596</b>	<b>\$ 224,168</b>	<b>\$ 307,917</b>	<b>\$ 396,520</b>

Source: Dawson James Estimates

Non-Opioid Pain Relief ROW	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Population	25,000,000	25,250,000	25,502,500	25,757,525	26,015,100	26,275,251	26,538,004	26,803,384	27,071,418	27,342,132	27,615,553
Increase in population	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Seeking Intervention	2,500,000	2,525,000	2,550,250	2,575,753	2,601,510	2,627,525	2,653,800	2,680,338	2,707,142	2,734,213	2,761,555
Market Penetration				4.00%	8.00%	12.00%	15.00%	15.00%	15.00%	20.00%	25.00%
Total patients treated	-	-	-	103,030	208,121	315,303	398,070	402,051	406,071	546,843	690,389
Average price per treatment		\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412	\$ 5,520	\$ 5,631	\$ 5,743
Increase in Cost		2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parmer revenue ('000)	\$ -	\$ -	\$ -	\$ 515,151	\$ 1,061,416	\$ 1,640,206	\$ 2,112,176	\$ 2,175,963	\$ 2,241,677	\$ 3,079,168	\$ 3,965,199
Royalty or profit share (50%)	\$ -	\$ -	\$ -	\$ 257,575	\$ 530,708	\$ 820,103	\$ 1,056,088	\$ 1,087,982	\$ 1,120,839	\$ 1,539,584	\$ 1,982,599
Sorrento Ownership adjustment		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
<b>Total Revenue ('000)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 128,788</b>	<b>\$ 265,354</b>	<b>\$ 410,052</b>	<b>\$ 528,044</b>	<b>\$ 543,991</b>	<b>\$ 560,419</b>	<b>\$ 769,792</b>	<b>\$ 991,300</b>

Source: Dawson James Estimates

**Valuation.** We assume that the company successfully develops COVI-SHIELD, but apply a probability of success factor of 50% to our therapeutic model. We make similar assumptions for our RTX model, which assumes ten million candidates for non-opioid pain relief (knee, cancer, and other). Please see our models and assumptions for more details. In addition to our risk cuts in both the COVID and RTX models, we also apply a 30% discount rate. We select 30% as the company is not yet profitable, and most of the products are still dependent on the outcome of the clinical trial. Our model assumes the company raises capital and is based on the 2030 share count. Our valuation conclusion is an equally weighted average of our FCFF, EPS, and sum-of-the-parts analysis. We use an estimated fully diluted end-year share count and assume multiple raises. The conclusion of this method is a \$21.00 price target.

**Exhibit 3. Free Cash Flow Model.**

Average	\$	21.0
Price Target	\$	22.3
Year		2020

**DCF Valuation Using FCFF (mln):**

units (millions - \$)	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
EBIT	2,532,945	1,894,895	1,190,707	1,032,646	882,122	739,478	570,573	581,572	592,950	793,317	1,005,480
Tax Rate	0%	20%	25%	28%	30%	33%	33%	33%	33%	33%	33%
EBIT(1-t)	2,540,055	1,515,916	893,030	743,505	617,485	495,450	382,284	389,653	397,276	531,522	673,671
- Change in NWC											
Free Cash Flow to Firm (FCFF)	2,540,055	1,515,916	893,030	743,505	617,485	495,450	382,284	389,653	397,276	531,522	673,671
PV of FCFF	2,540,055	1,169,689	531,687	341,562	218,880	135,511	80,678	63,452	49,917	51,532	50,396
Discount Rate		30%									
Long Term Growth Rate		1%									
Terminal Cash Flow		177,973									
Terminal Value YE 2030		13,314									
NPV		5,246,673									
NPV-Debt		182,958									
Shares out (thousands)		227,400	2030								
NPV Per Share		22.3									

Source: Dawson James estimates

**Exhibit 4. Discounted-EPS Model.**

Current Year	2020
Year of EPS	2022
Earnings Multiple	10
Discount Factor	30%
Selected Year EPS	\$ 3.93
NPV	\$ 23.4

Source: Dawson James estimates

		Discount Rate and Earnings Multiple Varies, Year is Constant					
		2022 EPS					
		20%	25%	30%	35%	40%	45%
Earnings Multiple	10	\$30.93	\$28.51	\$26.36	\$24.44	\$22.73	\$ 21.19
	15	\$46.40	\$42.76	\$39.53	\$36.66	\$34.09	\$ 31.78
	20	\$61.86	\$57.01	\$52.71	\$48.88	\$45.45	\$ 42.37
	25	\$77.33	\$71.27	\$65.89	\$61.10	\$56.81	\$ 52.96
	30	\$92.80	\$85.52	\$79.07	\$73.32	\$68.18	\$ 63.56
	35	\$108.26	\$99.77	\$92.25	\$85.54	\$79.54	\$ 74.15
	40	\$123.73	\$114.03	\$105.42	\$97.76	\$90.90	\$ 84.74
	45	\$139.19	\$128.28	\$118.60	\$109.98	\$102.26	\$ 95.33

Source: Dawson James estimates

**Exhibit 5. Sum-of-the-Parts Model.**

Sorrento Sum of the Parts	LT Gr	Discount Rate	Yrs. to Mkt	% Success	Peak Sales MM's	Term Val
COVID19 USA *	1%	30%	1	70%	\$1,500	\$5,172
NPV						\$7.35
COVID 19 ROW *	1%	30%	1	70%	\$1,500	\$5,172
NPV						\$7.35
Non - Opioid Pain Relief U.S.	1%	30%	3	50%	\$397	\$1,367
NPV						\$0.82
Non - Opioid Pain Relief ROW	1%	30%	3	50%	\$991	\$3,418
NPV						\$2.05
Service Revenues	1%	50%	0	50%	\$13	\$28
NPV						\$0.04
DAR-T Platform	1%	90%	5	50%	\$25	\$28
NPV						\$0.00
Net Margin						60%
MM Shrs OS						227
Total						\$18

Source: Dawson James estimates

## Risk Analysis

**Clinical and regulatory risk.** There is no assurance that any of the company's products will be approved for any additional indications and, even if approved, will be reimbursed by insurance, or successfully commercialized.

**Commercial risk.** The focus of the company is on successfully developing their products and eventually bringing them to the mass market. It is important to note that the market opportunity in COVID is a race against time. Others may develop a vaccine that could reduce the need for the company's therapy.

**Financial risk.** The company may need to raise capital in the marketplace relatively soon, and there can be no assurances that the company will be able to successfully raise capital and do so on favorable terms.

**Intellectual property risk.** The company may have to defend its patents and technical know-how, and there can be no assurances that the patents will not be infringed or will be held as valid if challenged, and the company may infringe on third party's patents.

**Reimbursement and insurance payment risk.** Insurance payment for products may be an additional hurdle for adoption.

**Exhibit 6. Income Statement.**

Sorrento Income Statement (\$ '000)															
SRNE	1Q20A	2Q20A	3Q20E	4Q20E	2020E	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
COVID19 USA *				2,000,000	2,000,000	1,500,000	1,000,000	800,000	600,000	400,000	200,000	200,000	200,000	200,000	200,000
COVID 19 ROW *				2,000,000	2,000,000	1,500,000	1,000,000	800,000	600,000	400,000	200,000	200,000	200,000	200,000	200,000
Non - Opioid Pain Relief U.S.						-	-	51,515	106,142	164,021	211,218	217,596	224,168	307,917	396,520
Non - Opioid Pain Relief ROW						-	-	128,788	265,354	410,052	528,044	543,991	560,419	769,792	991,300
Service Revenues	2,473	3,213	3,245	3,278	12,209	12,331	12,454	12,579	12,704	12,831	12,960	13,089	13,220	13,352	13,486
Revenues	5,248	5,794	5,852	5,910	22,804	3,000,000	2,000,000	1,780,303	1,571,496	1,374,072	1,139,261	1,161,587	1,184,587	1,477,709	1,787,820
Total Revenues (Product Sales, Service and Therapeutics)	7,721	9,007	9,097	4,009,188	4,035,013	3,012,331	2,012,454	1,792,881	1,584,200	1,386,904	1,152,221	1,174,677	1,197,807	1,491,061	1,801,306
<b>Expenses</b>															
COGS	2,439	2,249	2,911	1,282,940	1,290,539	903,699	603,736	537,864	475,260	416,071	345,666	352,403	359,342	447,318	540,392
% COGS	31.6%	32%	32%	32%	32%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
R&D	21,154	29,031	29,321	29,615	109,121	111,303	113,529	115,800	118,116	120,478	122,888	125,346	127,852	130,409	133,018
Intangible	992	992	992	992	3,968										
SG&A (net)	26,299	24,463	24,708	24,955	100,424	102,433	104,481	106,571	108,703	110,877	113,094	115,356	117,663	120,016	122,417
Total costs & expenses	50,884	56,735	56,940	1,337,509	1,502,068	1,117,435	821,747	760,235	702,078	647,426	581,648	593,105	604,858	697,744	795,826
Operating Income (Loss) EBIT	(43,163)	(47,728)	(47,843)	2,671,679	2,532,945	1,894,895	1,190,707	1,032,646	882,122	739,478	570,573	581,572	592,950	793,317	1,005,480
Oper Margin															
(Loss) or Gain on Securities	(59)	2													
Loss on Partial Debt	(23,645)	(28,294)													
Gain (loss) on derivate liabilities	4,920	1,980													
Loss gain on Fx	(147)	124													
Interest Expense	(6,825)	(8,297)	(8,297)	(8,297)	(31,716)										
Interest Income	19	2													
Other Income expenses - Financial Expenses (net)	(25,737)	(34,483)	50	50	(60,120)										
Pre-tax income	(68,900)	(82,213)	(56,190)	2,663,332	2,456,029	1,894,895	1,190,707	1,032,646	882,122	739,478	570,573	581,572	592,950	793,317	1,005,480
Taxes	(276)	(6,618)	-	-	(6,894)	378,979	297,677	289,141	264,636	244,028	188,289	191,919	195,673	261,795	331,808
Tax Rate	0%	0%	0%	0%	0%	20%	25%	28%	30%	33%	33%	33%	33%	33%	33%
Net Income (loss)	(69,180)	(84,993)	(56,190)	2,663,332	2,462,923	1,515,916	893,030	743,505	617,485	495,450	382,284	389,653	397,276	531,522	673,671
Net Loss attributable to noncontrolling interests	(3,985)	(7,253)	(3,371)	159,800	145,190.50	493,942.29	513,998.32	534,868.72	556,586.53	579,186.18	602,703.46	627,175.64	652,641.48	679,141.34	706,717
Net Gain / Loss to Sorrento	(65,195)	(77,740)	(52,819)	2,503,532	2,307,778.20	673,313	173,635	37,630	(81,123)	(197,690)	(308,345)	(327,143)	(346,739)	(269,869)	1,380,388
Basic EPS	(0.36)	(0.36)	(0.25)	11.71	10.75	6.67	3.93	3.27	2.72	2.18	1.68	1.71	1.75	2.34	3.98
Basic Wght Average Shares Outstanding (thousands)	182,609	216,956	227,173	227,400	213,535	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400
Fully Diluted Wgtd Avg Shrs outstanding (Thousands)	182,609	216,956	232,173	232,405	216,036	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400	227,400

Source: Dawson James estimates, company reports

Companies mentioned in this report:

Eli Lilly (LLY-Not Rated)  
Gilead (GILD-Not Rated)

Important Disclosures:

**Price Chart:**



Price target and ratings changes over the past three years:

- Initiated – Buy – May 26, 2020 – Price Target \$24.00
- Update – Buy – June 2, 2020 – Price Target \$24.00
- Update – Buy – June 5, 2020 – Price Target \$24.00
- Update – Buy – June 10, 2020 – Price Target \$24.00
- Update – Buy – July 2, 2020 – Price Target \$24.00
- Update – Buy – July 20, 2020 – Price Target \$24.00
- Update – Buy – July 29, 2020 – Price Target \$24.00
- Update – Buy – August 26, 2020 – Price Target \$21.00
- Update – Buy – August 28, 2020 – Price Target \$21.00
- Update – Buy – September 17, 2020 – Price Target \$21.00
- Update – Buy – September 24, 2020 – Price Target \$21.00
- Update – Buy – September 29, 2020 – Price Target \$21.00
- Update – Buy – October 5, 2020 – Price Target \$21.00
- Update – Buy – November 9, 2020 – Price Target \$21.00

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- 1) **Buy:** The analyst believes the price of the stock will appreciate and produce a total return of at least 20% over the next 12-18 months;
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The following chart reflects the range of current research report ratings for all companies, followed by the analysts of the Firm. The chart also reflects the research report ratings relating to those companies for which the Firm has performed investment banking services.

Ratings Distribution	Company Coverage		Investment Banking	
	# of Companies	% of Total	# of Companies	% of Totals
Market Outperform (Buy)	22	81%	4	18%
Market Perform (Neutral)	5	19%	1	20%
Market Underperform (Sell)	0	0%	0	0%
Total	27	100%	5	19%

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