Pharmaceuticals & Biotechnology

Source: Refinitiv

Market data

EPIC/TKR	**DNL**
Price (p)	**66.0**
12m High (p)	80.0
12m Low (p)	21.0
Shares (m)	122.0
Mkt Cap (£m)	80.5
EV (£m)	65.1
Free Float*	48%
Market	AIM

**As defined by AIM Rule 26*

Description

Diurnal is a UK-based specialty pharma company targeting patient needs in chronic, potentially life-threatening, endocrine (hormonal) diseases. Alkindi has now obtained regulatory approval in Europe, the US, Israel and Australia, and Chronocort has been filed for regulatory approval in Europe.

Company information

CEO	Martin Whitaker
CFO	Richard Bungay
Chairman (interim)	Sam Williams

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www.diurnal.co.uk

Key shareholders

Directors	2.6%
IP Group	36.1%
Finance Wales	9.5%
Polar Capital	8.1%
Amati VCT	7.8%
Richard Griffiths	3.8%

Diary

Nov'20	AGM
1Q'21	US Alkindi launch
1Q'21	Chronocort EMA approval

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DIURNAL GROUP

And then there were three

Diurnal is a commercial-stage specialty pharmaceutical company focused on diseases of the endocrine system. Its products are targeting rare conditions where medical need is currently unmet, with the long-term aim of building an "Adrenal Franchise". Alkindi® was approved by the European regulators in September 2018, and has been launched in 10 countries. Now it has been approved for the US market, with Diurnal receiving formal approval from the FDA. This is an important value-inflection milestone that only two other AIM-listed companies have reached. Marketing partner, Eton Pharmaceuticals (Eton), has high US sales expectations.

- **Strategy:** Diurnal's goal is to create a valuable "Adrenal Franchise" that can treat patients with chronic cortisol deficiency diseases from birth and for the rest of their lives. The long-term vision, once Alkindi and Chronocort are established in Europe and the US, is to expand the product offering to other endocrine conditions.

- **Alkindi:** Alkindi, or Alkindi Sprinkle, as it will be known in the US, is an immediate-release hydrocortisone preparation for the control of adrenal insufficiency (AI), including congenital adrenal hyperplasia (CAH), in children aged up to 18 years of age. It is currently being sold in 10 countries across Europe.

- **FDA approval:** Diurnal submitted a New Drug Application (NDA) with the US Food and Drug Administration (FDA) for Alkindi Sprinkle in November 2019, which was accepted for review in February 2020. The FDA formally approved the drug for commercialisation on its PDUFA date, 29 September 2020.

- **Commercialisation:** FDA approval has de-risked the drug. Diurnal signed an exclusive US licensing deal for the commercialisation of Alkindi Sprinkle with Eton on 27 March 2020. Sales should start in early 2021, at which point a $2.5m milestone will be triggered. Eton is forecasting peak sales in excess of $100m.

- **Investment summary:** Diurnal has become only the third listed AIM company to obtain FDA approval for a drug. Since signing the commercial deal, Eton has been readying itself to add Alkindi into its existing supply chain and commercial infrastructure, so that first sales can occur shortly after approval. Diurnal has other significant value-inflection points in the next six months. Meanwhile, the shares are trading well below our updated risk-adjusted DCF valuation (223p).

Financial summary and valuation

Year-end Jun (£m)	2018	2019	2020	2021E	2022E	2023E
Sales	0.07	1.04	2.39	7.43	19.16	28.90
SG&A	-6.21	-5.83	-6.20	-6.65	-7.88	-10.24
R&D	-10.02	-8.69	-4.63	-4.50	-5.62	-8.43
EBITDA	-16.97	-14.51	-6.01	-4.45	0.92	3.53
Underlying EBIT	-16.98	-14.53	-6.02	-4.46	0.91	3.52
Reported EBIT	-16.98	-14.53	-5.39	-3.61	0.91	3.52
Underlying PBT	-17.11	-14.40	-5.91	-4.38	0.96	3.57
Statutory PBT	-16.91	-14.40	-5.28	-3.53	0.96	3.57
Underlying EPS (p)	-27.16	-14.54	-4.93	-2.64	1.98	4.73
Statutory EPS (p)	-26.78	-19.70	-4.28	-1.94	1.98	4.14
Net (debt)/cash	17.28	9.15	15.43	8.60	9.00	10.61
Equity issues	13.40	5.53	11.20	0.00	0.00	0.00

Source: Hardman & Co Life Sciences Research

Alkindi de-risked

Alkindi now approved by regulators in Europe and the US

Alkindi/Alkindi Sprinkle is an immediate release preparation of hydrocortisone for the control of AI, including CAH in children and infants up to 18 years of age. Until the development of Alkindi, there was no child-friendly hydrocortisone replacement product for the above age groups in either Europe or the US. This drug has now been approved for commercialisation in both Europe and the US. Therefore, it represents a first-in-class licensed product that is expected to improve compliance and disease control with a reduced side effect profile.

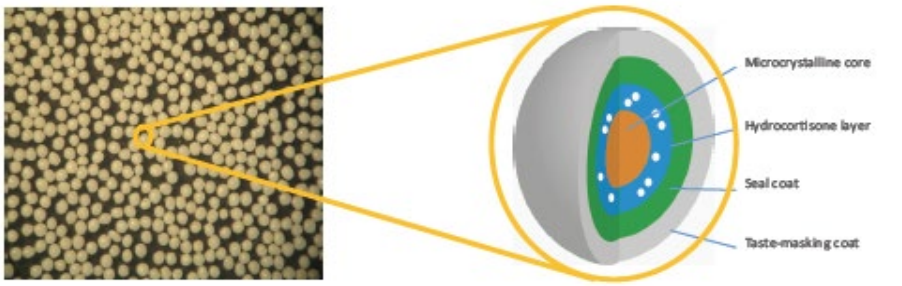
Presentation

Multi-particulate formulation manufactured by specialist, Glatt…

Alkindi is based on multi-particulate technology developed and owned by Diurnal's manufacturing partner, Glatt Pharmaceutical Services GmbH, which offers a multi-layered, multi-particulate formulation, with four essential components:

- **Core:** an inert microcrystalline bead needed in the manufacturing process.
- **Inner layer:** containing the active hydrocortisone ingredient.
- **Second layer:** acts as a seal.
- **Outer layer:** a coating to mask taste, making it user-friendly.

Manufacture of Alkindi beads



Source: Glatt, Diurnal, Hardman & Co Life Sciences Research

…available in four different doses to provide prescribing flexibility

In Europe and the US, Alkindi is available in capsules containing four different doses of hydrocortisone – 0.5mg, 1mg, 2mg and 5mg. This provides endocrinologists with flexibility to individualise the dose according to a patient's needs, which is even more important when treating infants and babies. The capsules can be opened, allowing the drug to be mixed/sprinkled with baby/infant food. The product has a long shelf-life, which is attractive for distributors and wholesalers.

Manufactured packs of Alkindi

Source: Diurnal, Hardman & Co Life Sciences Research

Commercial opportunity

Reliable databases put the prevalence at about 1 in 10,000 of the population

A number of reliable databases are available with statistics for the prevalence of rare diseases in the US and Europe, which are key target markets for Diurnal and its distribution partners. For AI and both paediatric and adult CAH, the numbers consistently average around 1:10,000 of the population.

Prevalence of CAH and AI

	United States	Europe
AI	1:10,000[a]	1:7,000–1:10,000[c]
Paediatric CAH	1:10,000[b]	1:5,000–1:15,000[d]
Adult CAH	1:10,000-1:16,000[a]	1:5,000–1:15,000[c]

Source: [a]MedScape, [b]NIH, [c]Orphanet, [d]NHS, Hardman & Co Life Sciences Research

These prevalence data have then been applied to reliable 2018 population statistics for the US (census bureau) and the major European countries (Eurostat data). Population statistics for children were taken from Eurostat (ages 0-12 years for Europe) and Childstats.gov (0-18 years for the US). These data have been used to calculate the addressable population.

CAH patient numbers

	United States	Europe[c]
Paediatric AI	800-1,000[a]	2,500
Adult AI	16,000[b]	53,000
Paediatric CAH	7,400[a]	4,200
Adult CAH	27,500[b]	42,000

Source: [a]childstats.gov, [b]Medscape, [c]Eurostat, Hardman & Co Life Sciences Research

Diurnal intends to price equivalent to comparable products…

Diurnal has consistently stated that it intends to price its products as close as possible to prices of equivalent competing drugs, where available (e.g. Plenadren (Takeda)). On this basis, Alkindi is being priced at about €5,500/$6,100 p.a. in European markets. Pricing in the US is more difficult to judge, because there are no similar competing products. To assess the market, we have used a price that represents about a 10% premium to the European price, or $6,800 p.a.

Addressable market

	United States $6,800 p.a.	Europe $6,100 p.a.
Paediatric AI	6.1	15.0
Adult AI	108.8	322.0
Paediatric CAH	50.3	25.6
Adult CAH	187.0	256.2

Source: Hardman & Co Life Sciences Research

US opportunity

…but Eton might take more optimistic approach in US

This suggests that the US market opportunity for Alkindi Sprinkle is ca.$56m. However, in a recent results announcement[1] and presentation[2] from its commercial partner, Eton stated that the US commercial opportunity could be greater than $100m. This suggests that Eton has a more optimistic view about pricing of Alkindi in the US, which, if achieved, would provide upside potential to our forecasts.

Eton has stated it will be ready to launch shortly after FDA approval

Also, in readiness for the FDA approval, Eton stated that it had been working aggressively on launch preparation activities and had placed an initial purchase order with Diurnal – cannot by law be fulfilled until after approval – so that it would be in a position to launch the product shortly after approval. Launch is anticipated to be in early 2021.

[1] https://ir.etonpharma.com/news-releases/news-release-details/eton-pharmaceuticals-announces-second-quarter-2020-financial

[2] https://ir.etonpharma.com/static-files/202baa89-020a-44ab-8a73-d12ad27288d1

Conclusion

An important milestone that is positive for sentiment…

…and may lead to upgrade in forecasts

FDA approval of Alkindi is very positive for sentiment and an important milestone for Diurnal, making it only the third AIM-listed company to achieve this goal. Our forecasts for Alkindi in the US look conservative relative to the expectations of Eton, suggesting that there is upside potential to our numbers. Use of Alkindi in paediatric patients paves the way to the use of these products into adulthood, which represents a much larger market opportunity for which Diurnal's adult version, Chronocort, is ideally positioned. First regulatory approval of Chronocort is anticipated in Europe in 1Q'21.

Financial summary

Valuation

Removal of risk adjustment increases our DCF from 221p to 223p per share

Approval of Alkindi in the US has removed the risk adjustment (100% from 90%) from the NPV calculation in our DCF model. Because Diurnal only receives royalties from Eton, the effect of this is quite small, raising our DCF from 221p to 223p. In the event that the US pricing and commercial opportunity were more in line with Eton's assumptions, the DCF would rise further, to 227p.

Forecast summary

Year-end Jun (£m)	2018	2019	2020	2021E	2022E	2023E
Profit & Loss						
Sales	0.07	1.04	2.39	7.43	19.16	28.90
COGS	-0.02	-0.22	-0.67	-1.78	-3.82	-5.74
Selling & distribution	-5.21	-4.51	-4.14	-4.50	-5.40	-7.02
Admin. expenses	-1.00	-1.33	-2.06	-2.15	-2.48	-3.22
Share-based costs	-0.81	-0.83	-0.84	-0.89	-0.93	-0.98
R&D	-10.02	-8.69	-4.63	-4.50	-5.62	-8.43
Underlying EBIT	**-16.98**	**-14.53**	**-6.02**	**-4.46**	**0.91**	**3.52**
Exceptional items	0.00	0.00	0.63	0.85	0.00	0.00
Statutory EBIT	-16.98	-14.53	-5.39	-3.61	0.91	3.52
Net interest	-0.13	0.13	0.11	0.08	0.04	0.05
Underlying pre-tax profit	**-17.11**	**-14.40**	**-5.91**	**-4.38**	**0.96**	**3.57**
Reported pre-tax profit	-16.91	-14.40	-5.28	-3.53	0.96	3.57
Tax liability/credit	2.28	2.11	1.21	1.17	1.47	1.48
Weighted average (m)	54.60	62.39	95.23	121.63	122.02	122.02
Underlying basic EPS (p)	**-27.16**	**-14.54**	**-4.93**	**-2.64**	**1.98**	**4.73**
Balance sheet @30 Jun						
Share capital	0.00	0.00	0.00	0.00	0.00	0.00
Reserves	13.81	6.72	12.30	9.95	12.37	17.42
Loans/debt	0.00	0.00	0.00	0.00	0.00	0.00
***less:* Cash**	**17.28**	**9.15**	**15.43**	**8.60**	**9.00**	**10.61**
less: Non-core investments	0.00	0.00	1.67	2.52	2.52	2.52
Invested capital	-0.40	1.80	1.28	4.91	6.93	10.38
Cashflow						
Underlying EBIT	-16.98	-14.53	-6.02	-4.46	0.91	3.52
Change in working capital	0.66	-2.33	-0.38	-4.49	-2.75	-4.35
Company op. cashflow	-15.50	-16.01	-5.53	-8.05	-0.90	0.16
Tax received/(paid)	2.74	2.28	2.12	1.19	1.32	1.47
Capital expenditure	-0.02	-0.03	-0.01	-0.01	-0.01	-0.01
Free cashflow	-12.69	-13.66	-3.32	-6.83	0.40	1.60
Equity issues	13.40	5.53	11.20	0.00	0.00	0.00
Change in net debt	**0.91**	**-8.14**	**7.35**	**-6.83**	**0.40**	**1.60**
Opening net cash	16.37	17.28	9.15	15.43	8.60	9.00
Closing net cash	**17.28**	**9.15**	**15.43**	**8.60**	**9.00**	**10.61**

Note: numbers may not add up, as this is only a summary extracted from main workbook
Source: Hardman & Co Life Sciences Research

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(Disclaimer Version 8 – Effective from August 2018)

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