



CORPORATE PRESENTATION



TAHO Pharmaceuticals Ltd
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COMPANY OVERVIEW

TAHO PHARMACEUTICALS LTD.

Founded: 2010

Base: Taipei, Taiwan

Employee: 24 (17 Scientists)

Focus: Drug delivery technology

Strategy: Deliver existing drugs through innovative new transdermal or transmucosal route with improved deliverability and efficacy.



Transdermal Delivery System



Transmucosal Delivery System

TRANSEPITHELIAL DELIVERY SYSTEM (TDS)

Transdermal Delivery System



- Up to several day duration
- More consistent plasma level
- No first-pass metabolism
- Highly reliable for both patients and health care providers

Transmucosal Delivery System



- No water needed
- No risk of choking
- Ideal “take-away medicine”
- Product differentiation for lifecycle management



PROJECT HIGHLIGHT

Project Code	Product	Indication	Product Highlight
TAH4411	Ondansetron ODF	Chemotherapy related Antiemetic	Ease of administration
TAH3311	Apixaban Oral Dissolving Film	Anticoagulation	Ease of administration
TAH3341	Apixaban Oral Extended-Release Film	Anticoagulation	Once daily, Ease of administration
TAH2211	Buprenorphine / Naloxone Sublingual Film	Opioid Seccession	Safer and avoid misuse
TAH2231	Naloxone Buccal Film	Opioid Overdose	Good portability, Rapid Onset
TAH9901	Methylphenidate Flexible Patch	ADHD	Avoid insomnia and low appetite
TAH9922	Atomoxetine Oral Liquid	ADHD	Child friendly taste masking

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TDS PLATFORM

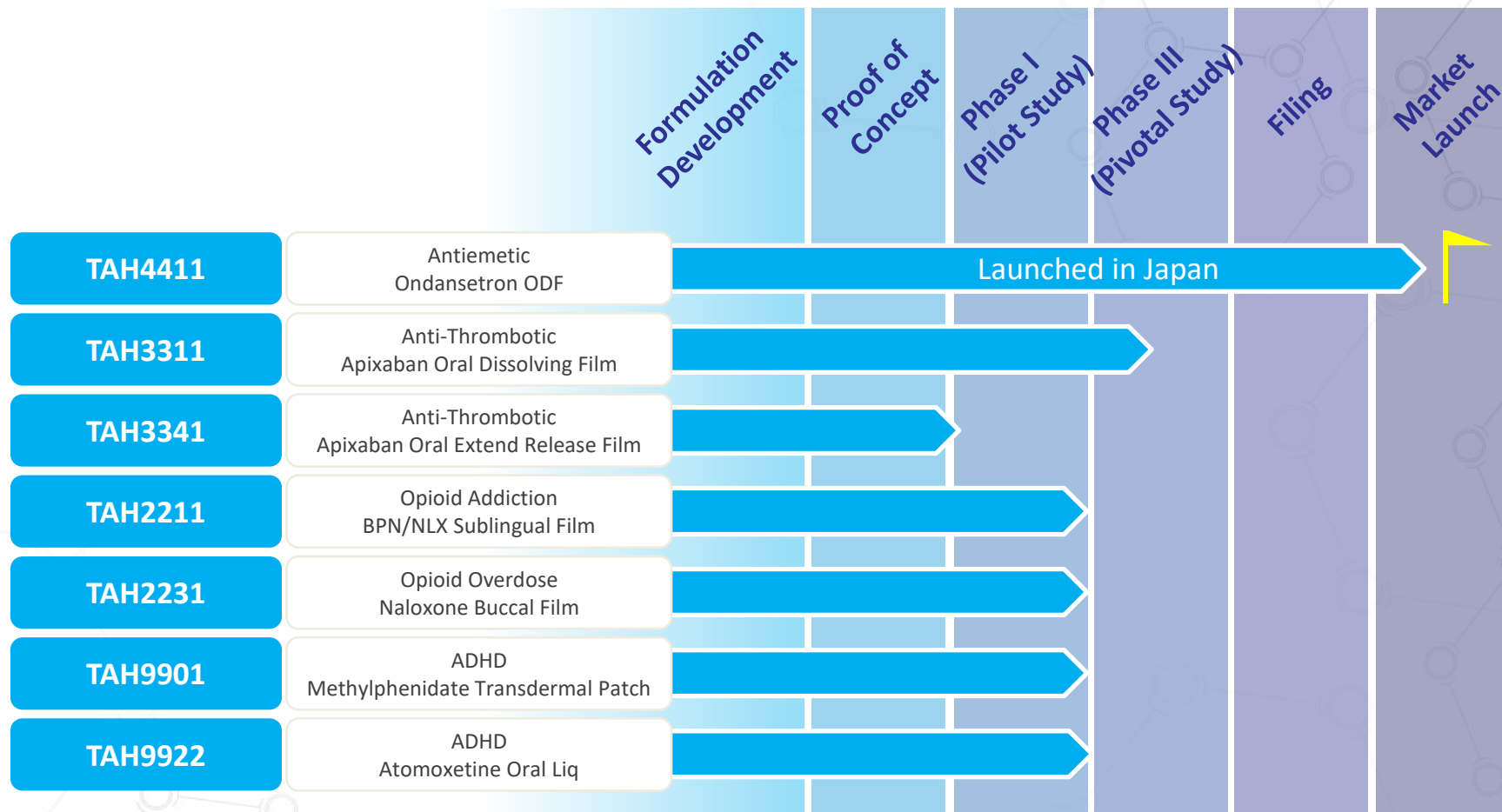
DRUG PORTFOLIO

PIPELINE

INVESTMENT
CONSIDERATION



PIPELINE



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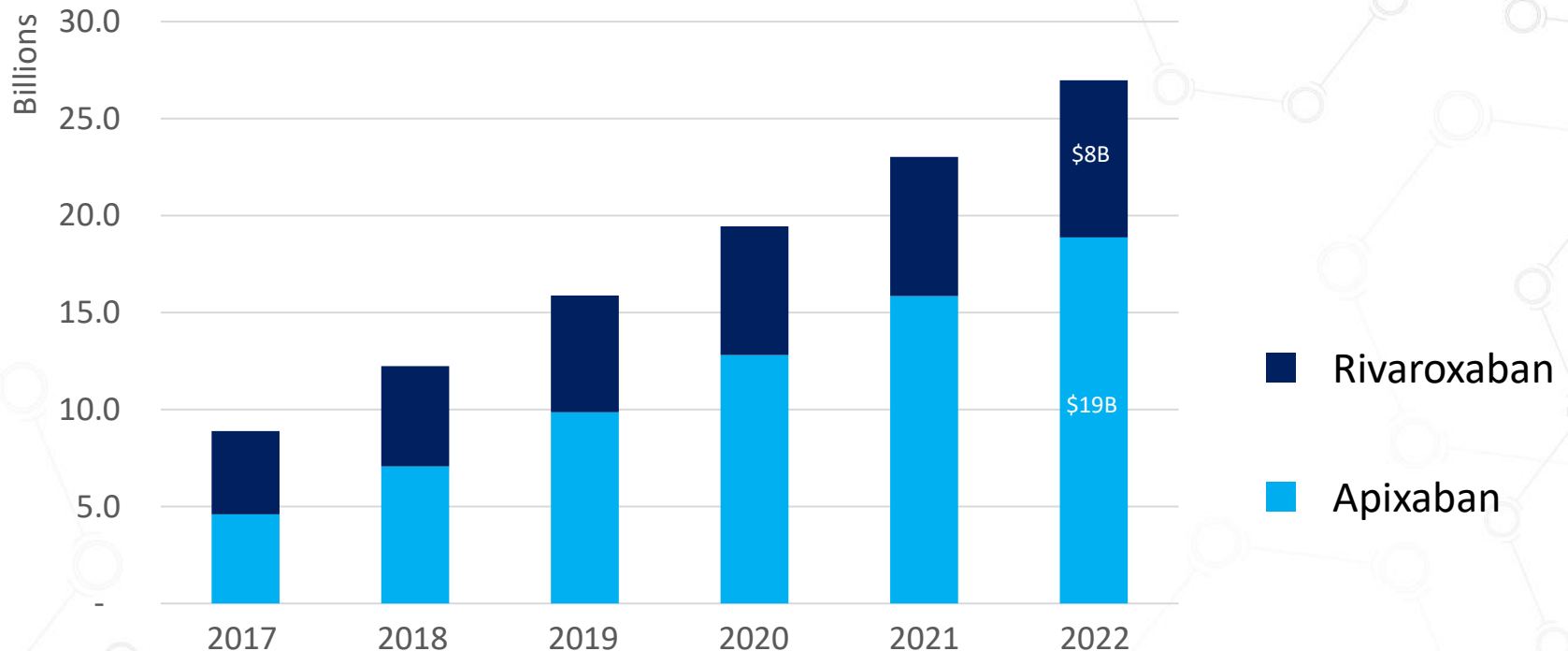
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TAH3311 OF – ANTI-THROMBOTIC

NOACS ARE MAJOR DRIVING FORCE FOR MARKET GROWTH

US Novel Anticoagulant Sales



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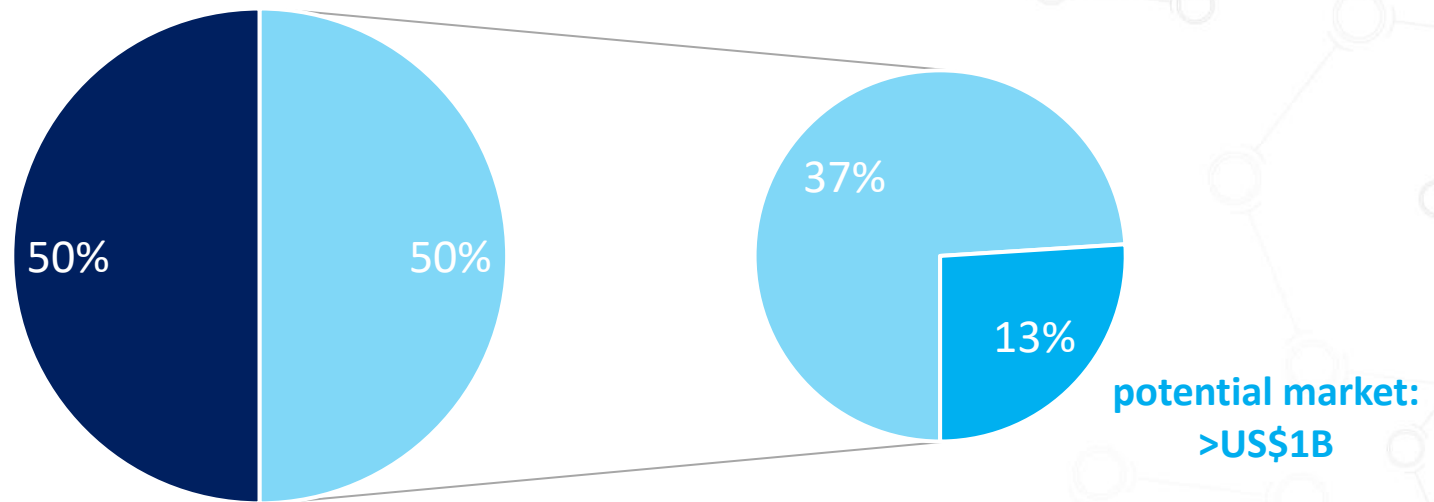
NOAC: Novel Oral Anticoagulants
IQVIA data



TAH3311 OF – ANTI-THROMBOTIC

NOAC ONLY AVAILABLE IN TABLETS
TABLET REQUIRE FEEDING TUBE FOR STROKE DYSPHAGIA

15 mln Patients Suffer From Stroke Every Year
13% Stroke Patient Have Long-term Swallowing Disability (Dysphagia)



■ No Stroke Dysphagia ■ Stroke Dysphagia ■ Long-term Stroke Dysphagia

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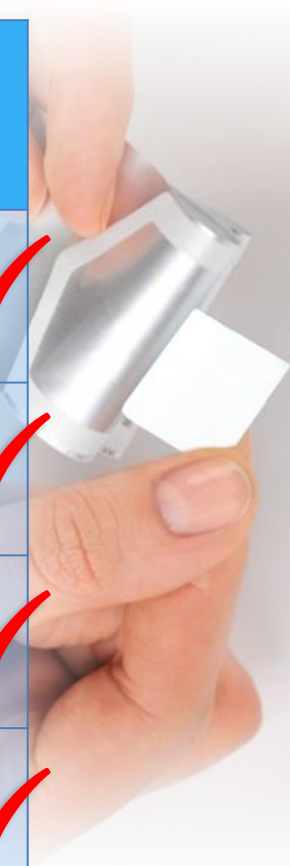
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TAH3311 OF – ANTI-THROMBOTIC

NOACS ARE MAJOR DRIVING FORCE FOR MARKET GROWTH

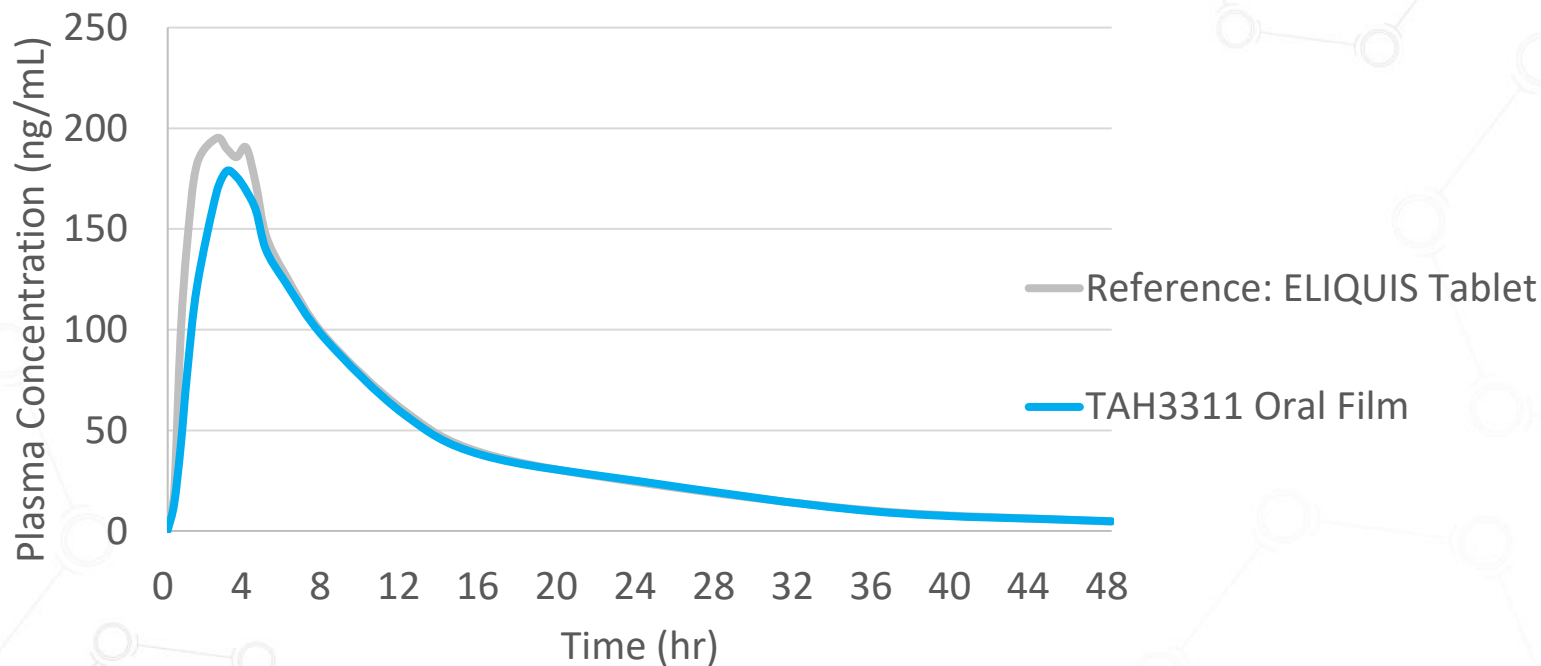
	Warfarin Tablet	NOAC Tablet 1	NOAC Tablet 2	TAH3311 Oral Film
Usual Dosing	1-10 mg Daily	10-20 mg Daily	2.5-5 mg Twice a Day	2.5-5 mg Twice a Day ✓
Bleeding Risk	High	High	Medium	Medium ✓
Require Monitoring	Yes	No	No	No ✓
Require Feeding Tube	Yes	Yes	Yes	No ✓



TAH3311 FILM – ANTI-THROMBOTIC

PROVEN TECHNOLOGY IN HUMAN
PK SIMILAR TO TABLET IMPLY CLEAR CLINICAL PATHWAY

Apixaban Oral Film Phase I Study Result



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*Single dose, 5 mg, in 8 healthy volunteers, blinded, fully crossed-over

TAH3311 OF – ANTI-THROMBOTIC



**Twice Daily Oral Film
For Elderly to prevent Stroke, DVT, PE**

- ✓ First oral film with market exclusivity
- ✓ Much easier to take than oral tablet
 - ✓ No feeding tube needed
 - ✓ No choking risk
 - ✓ Patient friendly formula with good taste
- ✓ Phase 1 data ready, Entering Phase 2 (pivotal study)



NALOXONE KITS – AVAILABILITY

NARCAN®
Nasal Spray



KLOXXADO®
Nasal Spray



ZIMHI®
Intramuscular



Bulky device, not easy to carry around

Not available when witnessing an overdose incident

Minutes and seconds counts when OD happens*



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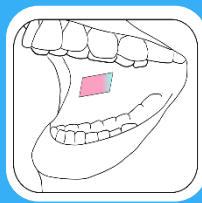
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NALOXONE BUCCAL FILM – OPIOID OD

FAST AND EASY TO USE FOR EMERGENCY OD TREATMENT

	NARCAN® Nasal Spray	KLOXXADO® Nasal Spray	ZIMHI® Intramuscular	TAH2231 Buccal Film
				
Fast Onset	Yes	Yes	Yes	Yes ✓
Avoid OD After Rescue	No	No	No	Yes ✓
Ease of Use	Yes	Yes	Yes	Yes ✓
Easy to Carry	No	No	No	Yes ✓



TAH2231 BUCCAL FILM – OPIOID OD



Single Use Buccal Film Emergency Treatment of Opioid Overdose

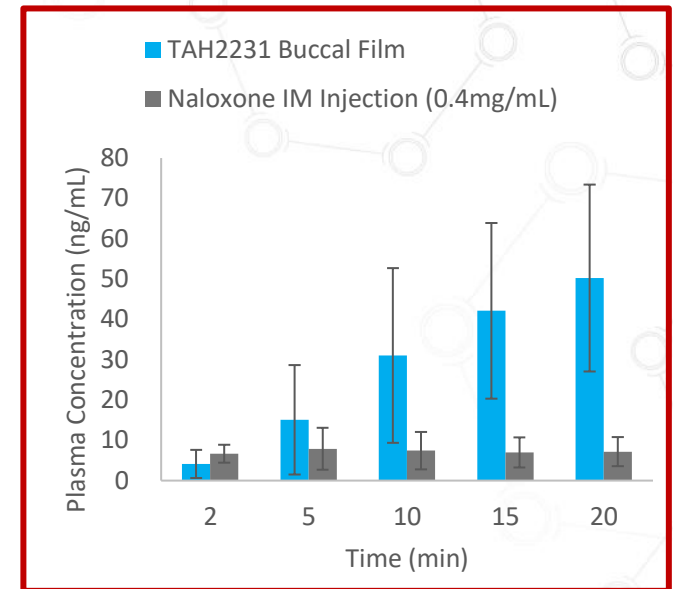
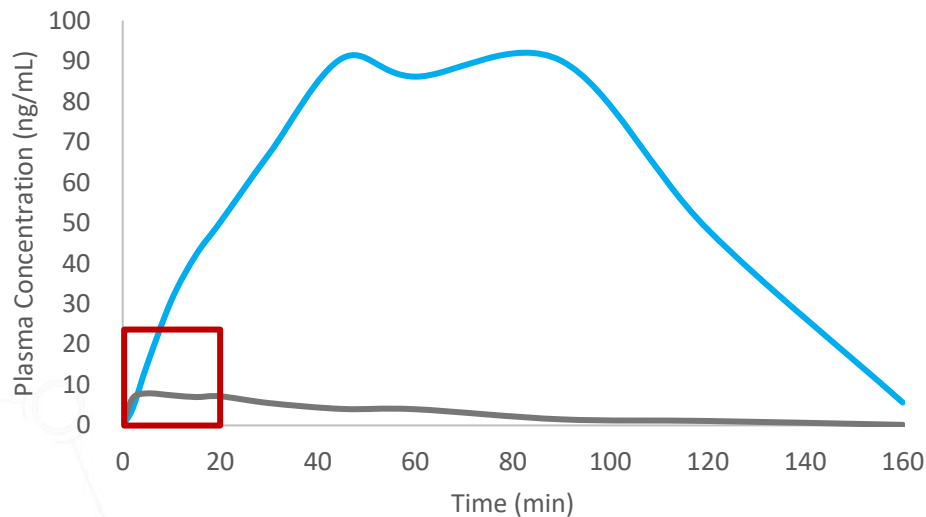
- ✓ First buccal film with market exclusivity
- ✓ Much easier to carry than nasal spray and Injection
 - ✓ Easy to Carry
 - ✓ Easy to Use
 - ✓ Better Availability When Emergency
- ✓ In development. Animal PoC ready.
- ✓ In the middle of Phase 1 Studies



NALOXONE BUCCAL FILM – OPIOID OD

PROVEN IN ANIMAL PK STUDY

TAH2231 Animal Pharmacokinetics Profile



- No statistic differences on 2.5 min time point
- TAH2231 Buccal Film has high plasma concentration after 2 minutes time point
- BA of TAH2231 Buccal Film > 70%

NALOXONE BUCCAL FILM – OPIOID OD

PROVEN IN CLINICAL P1 STUDY

- A: Buccal Film A single
- B: Buccal Film A double
- C: Buccal Film B double
- D: Naloxone IM Injection (Hospira)

Table 2-1 Summary of Study Results Based on Plasma Unconjugated Naloxone Levels

<i>Parameter</i>	<i>Trt</i>	<i>n</i>	<i>Arithmetic Mean (CV%)</i>	<i>Geometric Mean</i>	<i>Contrast</i>	<i>Ratio (%)</i>	<i>90% Confidence Interval</i>	<i>Intra-Sbj CV(%)</i>
<i>AUC_t</i> <i>(hr*ng/mL)</i>	A	16	6.3032 (39)	5.9359	A vs D	243.01	206.76 - 285.62	26
	B	16	11.5511 (31)	11.0669	B vs D	453.08	372.98 - 550.37	32
	C	16	12.4510 (36)	11.8914	C vs D	486.83	401.86 - 589.76	31
	D	16	2.5123 (25)	2.4426				
<i>AUC_{inf}</i> <i>(hr*ng/mL)</i>	A	16	6.5791 (39)	6.1907	A vs D	246.26	210.64 - 287.92	25
	B	16	12.0991 (31)	11.5874	B vs D	460.94	380.53 - 558.35	31
	C	16	13.0822 (37)	12.4685	C vs D	495.99	411.22 - 598.24	30
	D	16	2.5838 (25)	2.5138				
<i>C_{max}</i> <i>(ng/mL)</i>	A	16	3.0063 (45)	2.7929	A vs D	146.47	107.00 - 200.51	53
	B	16	5.6456 (39)	5.2553	B vs D	275.60	200.17 - 379.46	55
	C	16	6.6150 (44)	6.1120	C vs D	320.54	227.11 - 452.39	59
	D	16	2.0528 (33)	1.9068				

CV, coefficient of variation; N, number of subjects; Trt, treatment.



EXTENDED RELEASE APX IS NEEDED

ON CREATING A BETTER FORMULATION FOR APIXABAN
TAHO OBTAINED KOL OPINIONS



Lower frequency of dosing

Once a day dosing



I would prefer once a day dose



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TAH3341 ER ODF – ANTI-THROMBOTIC

FIRST EXTENDED RELEASE APIXABAN FORMULATION

	Warfarin Tablet	Rivaroxaban Tablet	Apixaban Tablet	TAH3341 ER OD Film
Usual Dosing	1-10 mg Daily	10-20 mg Daily	2.5-5 mg Twice a Day	5 - 10 mg Daily ✓
Bleeding Risk	High	High	Medium	Medium ✓
Require Monitoring	Yes	No	No	No ✓
Require Feeding Tube	Yes	Yes	Yes	No ✓



TAH3341 ER ODF – ANTI-THROMBOTIC



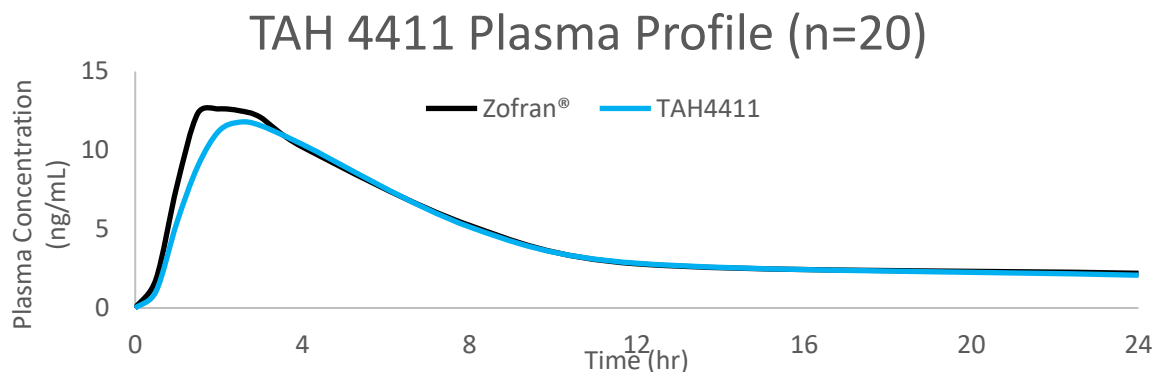
**Once Daily Oral Dissolving Film
For Elderly to prevent Stroke, DVT, PE**

- ✓ First extended-release oral film
- ✓ Much easier to take than oral tablet
 - ✓ Once Daily for better compliance
 - ✓ No feeding tube needed
 - ✓ Easy to carry format
- ✓ Animal PK data ready. Entering Human Studies



ONDANSETRON ODF - ANTIEMETIC

A single dose, randomized, open-label, cross-over bioequivalence study of TAH4411 4mg oral film and Zonfran tablet (GSX) in healthy subjects under Fasting Conditions



PK Parameters	TAH4411	Zofran®
AUC _{0-t} (h.ng/mL)	98.865 _{+39.686}	102.508 _{+43.960}
AUC _{0-∞} (h.ng/mL)	103.501 _{+45.669}	107.443 _{+50.166}
C _{max} (ng/mL)	13.7853 _{+4.4515}	14.4520 _{+5.2191}
T _{max} (hr)	2.26 _{+0.69}	2.05 _{+0.62}



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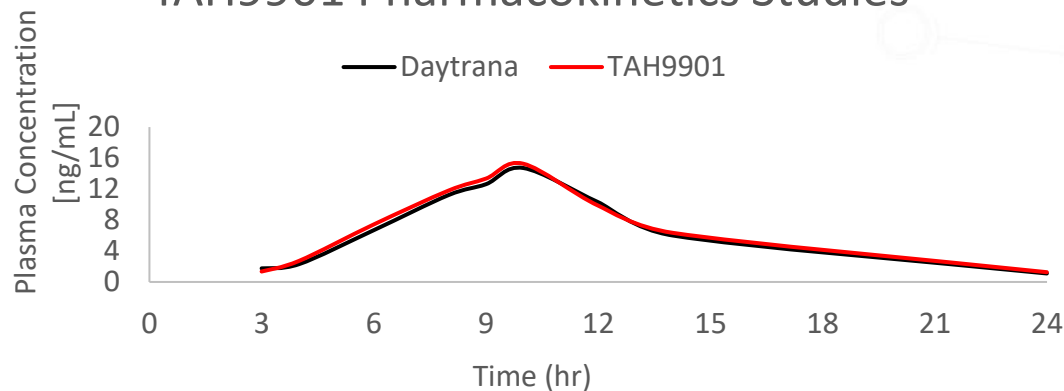
INVESTMENT
CONSIDERATION



METHYLPHENIDATE PATCH - ADHD

Single-dose, randomized, open-label, crossover study in healthy subjects under fasting conditions

TAH9901 Pharmacokinetics Studies



PK Parameters	TAH9901	Daytrana®
AUC _{0-t} (h.ng/mL)	129.2 _{+39.15}	123.69 _{+19.42}
AUC _{0-∞} (h.ng/mL)	137.12 _{+39.99}	130.37 _{+18.84}
C _{max} (ng/mL)	15.37 _{+5.37}	14.78 _{+3.84}
T _{max} (hr)	9.75 _{+0.62}	9.92 _{+0.29}
t _{1/2} (h)	4.21 _{+0.67}	3.95 _{+0.66}



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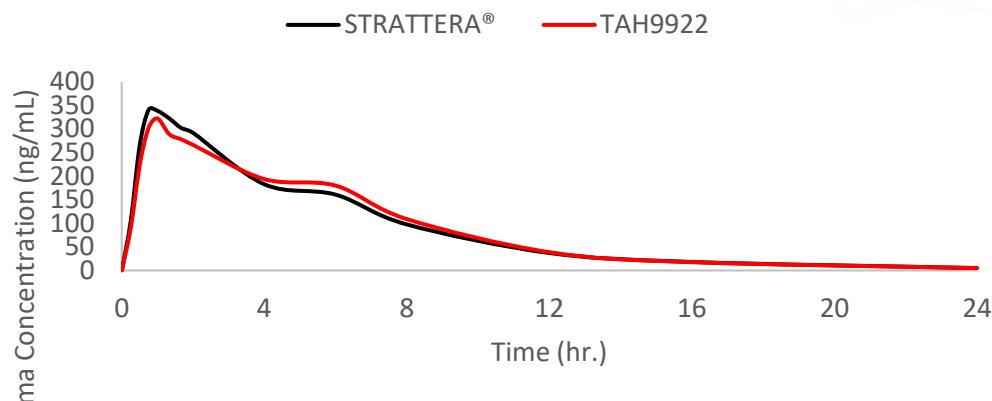
INVESTMENT
CONSIDERATION



ATOMOXETINE ORAL SOLUTION - ADHD

Single-dose, randomized, open-label, crossover study in healthy subjects under fasting conditions

TAH9922 Pharmacokinetics Studies



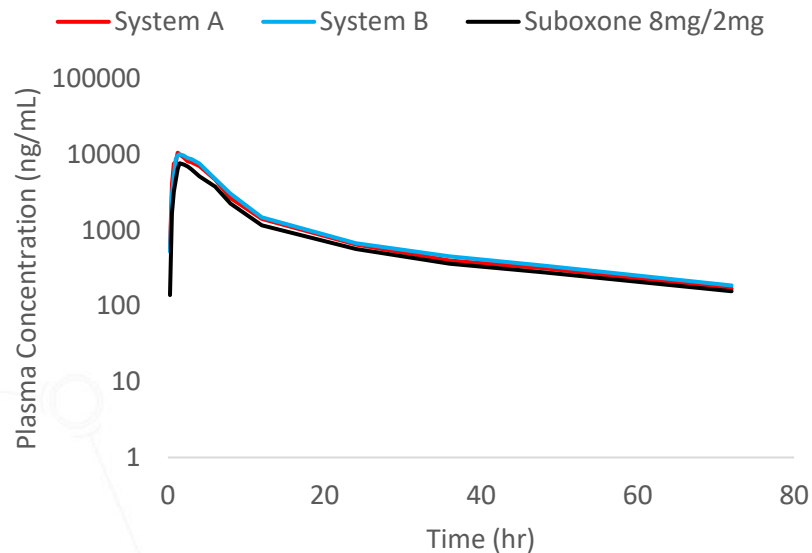
PK Parameters	TAH9922	STRATTERA®
AUC_{0-t} (h.ng/mL)	2009.72 _{+907.54}	1988.77 _{+853.92}
$AUC_{0-\infty}$ (h.ng/mL)	2059.38 _{+931.59}	2041.10 _{+876.98}
C_{max} (ng/mL)	354.4 _{+146.8}	371.6 _{+104.5}
T_{max} (hr)	1.35 _{+0.99}	1.13 _{+0.49}
$t_{1/2}$ (h)	2.93 _{+0.75}	3.04 _{+0.74}



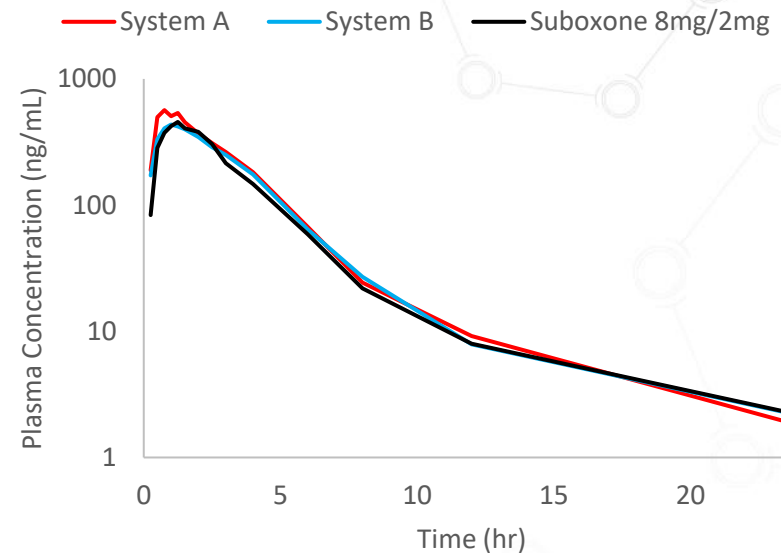
BUPRENORPHINE/NALOXONE FILM – OPIOID DETOX

Single-dose, randomized, open-label, crossover study in 7 healthy subjects, fasted

TAH2211 PK Profile: Buprenorphine



TAH2211 PK Profile: Naloxone



- RLD: **SUBOXONE® sublingual film** (Buprenorphine 8 mg/ Naloxone 2 mg)
- No significant difference between the three formulations

PARTNERSHIP FOR DRUG DELIVERY

THANK YOU !

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