

4 PIPELINE UPDATE – ASTRAZENECA DEVELOPMENT PIPELINE, 30 JUNE 2014

NMEs

Phase III / Pivotal / Registration

Submission dates shown for assets in Phase III and beyond. As disclosure of compound information is balanced by the business need to maintain confidentiality, information in relation to some compounds listed here has not been disclosed at this time.

Compound	Mechanism	Area Under Investigation	Date Commenced Phase	Estimated Filing			
				US	EU	Japan	China
Cardiovascular and Metabolism							
<i>Brilinta / Brilique</i> ¹	ADP receptor antagonist	arterial thrombosis		Launched	Launched	Filed	Launched
<i>Epanova</i> [#]	omega-3 free fatty acids	hypertriglyceridaemia		Approved			
<i>Farxiga / Forxiga</i> ²	SGLT-2 inhibitor	diabetes		Launched	Launched	Launched	Filed
<i>Myalept</i>	leptin analogue	lipodystrophy		Launched	2015	N/A	
roxadustat [#]	hypoxia-inducible factor inhibitor	anaemia in CKD / ESRD	Q3 2014 ³	2018	N/A	N/A	2016
Oncology							
AZD9291 [¶]	EGFR tyrosine kinase inhibitor	advanced T790M+ NSCLC	Q2 2014	2015	2015	2015	2017
<i>Caprelsa</i>	VEGFR / EGFR tyrosine kinase inhibitor with RET kinase activity	medullary thyroid cancer		Launched	Launched	Q3 2014	Filed
MEDI4736 [#] PACIFIC	anti-PD-L1 MAb	stage III NSCLC	Q2 2014	2017	2020	2020	
MEDI4736 [#] ATLANTIC [¶]	anti-PD-L1 MAb	3rd line NSCLC	Q1 2014	2016	2017	2017	
moxetumomab pasudotox [#]	anti-CD22 recombinant immunotoxin	hairy cell leukaemia	Q2 2013	2018	2018		
olaparib	PARP inhibitor	BRCAm PSR ovarian cancer		Filed	Filed		
olaparib SOLO-1	PARP inhibitor	1st line BRCAm ovarian cancer	Q3 2013	2017	2017	2017	2018
olaparib SOLO-2	PARP inhibitor	BRCAm PSR ovarian cancer	Q3 2013	2016	2016	2016	2016
olaparib GOLD	PARP inhibitor	2nd line gastric cancer	Q3 2013			2017	2018
olaparib OlympiA	PARP Inhibitor	adjuvant breast cancer	Q2 2014	2020	2020	2020	2021
olaparib OlympiAD	PARP inhibitor	metastatic breast cancer	Q2 2014	2016	2016	2016	
selumetinib [#] SELECT-1	MEK inhibitor	2nd line KRAS+ NSCLC	Q4 2013	2017	2017		
selumetinib [#] ASTRA	MEK inhibitor	differentiated thyroid cancer	Q3 2013	2017	2017		
selumetinib [#] SUMIT	MEK inhibitor	uveal melanoma	Q2 2014	2015	2015		
tremelimumab [¶]	anti-CTLA-4 MAb	mesothelioma	Q2 2014	2017	2017	2017	

Phase III / Pivotal / Registration (continued)

Compound	Mechanism	Area Under Investigation	Date Commenced Phase	Estimated Filing			
				US	EU	Japan	China
Respiratory, Inflammation and Autoimmunity							
benralizumab [#] CALIMA, SIROCCO, ZONDIA	anti-IL-5R MAb	severe asthma	Q4 2013	2016	2016		
benralizumab [#] TERRANOVA, GALATHEA	anti-IL-5R MAb	COPD	Q3 2014 ⁴	2018	2018		
brodalumab [#] AMAGINE-1,2,3	anti-IL-17R MAb	psoriasis	Q3 2012	++	++		
brodalumab [#] AMVISION-1,2	anti-IL-17R MAb	psoriatic arthritis	Q1 2014	++	++		
lesinurad	selective uric acid reabsorption inhibitor (URAT1)	chronic treatment of patients with gout	Q4 2011	Q4 2014	Q4 2014		n/a ⁵
PT003 GFF	LAMA / LABA	COPD	Q2 2013	2015	2016		
PT001 GP	LAMA	COPD	Q2 2013	2015	2016		
Infection							
CAZ AVI [#] RECLAIM	cephalosporin / beta lactamase inhibitor	serious infections	Q1 2012	N/A	Q4 2014	2015	2016
CAZ AVI [#] REPROVE	cephalosporin / beta lactamase inhibitor	hospital-acquired pneumonia / ventilator-associated pneumonia	Q2 2013	N/A	2017	2017	2018
Zinforo [#]	extended spectrum cephalosporin with affinity to penicillin-binding proteins	pneumonia / skin infections		N/A	Launched	N/A	Filed
Neuroscience							
Movantik [#]	oral peripherally-acting mu-opioid receptor antagonist	opioid-induced constipation		Filed	Filed		

Partnered product.

¹ Registrational Phase II/III study.

++ Filing is the responsibility of the partner.

1 Brilinta in the US; Brilique in rest of world.

2 Farxiga in the US; Forxiga in rest of world.

3 First patient enrolled in June and dosed in July 2014.

4 First patient dosed in July 2014.

5 Regulatory approval no longer being sought in China. This market will be served by RDEA3170.

NMEs

Phases I and II

Compound	Mechanism	Area Under Investigation	Phase	Date Commenced Phase	Estimated Filing			
					US	EU	Japan	China
Cardiovascular and Metabolism								
tenapanor (AZD1722) [#]	NHE3 inhibitor	ESRD-Pi / CKD with T2DM ¹	II	Q1 2013				
AZD4901	hormone modulator	polycystic ovarian syndrome	II	Q2 2013				
AZD1979	melanin-concentrating hormone (MCH) receptor	obesity	I	Q2 2014				
MEDI6012	LCAT	arterial thrombosis	I	Q1 2012				

MEDI8111	Rh-factor II	trauma / bleeding	I	Q1 2014				
Oncology								
AZD1775 [#]	WEE-1 inhibitor	ovarian cancer	II	Q4 2012				
AZD2014	mTOR serine / threonine kinase inhibitor	solid tumours	II	Q1 2013				
AZD4547	FGFR tyrosine kinase inhibitor	solid tumours	II	Q4 2011				
MEDI-551 [#]	anti-CD19 MAb	CLL / DLBCL	II	Q1 2012				
MEDI-573 [#]	anti-IGF MAb	metastatic breast cancer	II	Q2 2012				
selumetinib [#]	MEK inhibitor	2nd line KRAS-NSCLC	II	Q1 2013				
AZD5363 [#]	AKT kinase inhibitor	breast cancer	II	Q1 2014				
volitinib [#]	MET tyrosine kinase inhibitor	papillary renal cell carcinoma	II	Q2 2014				
AZD1208	PIM kinase inhibitor	haematological malignancies	I	Q1 2012				
AZD5312 [#]	androgen receptor inhibitor	prostate cancer	I	Q2 2014				
AZD6738	ATR serine / threonine kinase inhibitor	CLL / head & neck	I	Q4 2013				
AZD8186	PI3 kinase beta inhibitor	solid tumours	I	Q2 2013				
AZD9150 [#]	STAT3 inhibitor	haematological malignancies	I	Q1 2012				
MEDI-565 [#]	anti-CEA BITE MAb	solid tumours	I	Q1 2011				
MEDI0639 [#]	anti-DLL-4 MAb	solid tumours	I	Q2 2012				
MEDI0680	anti-PD-1 MAb	solid tumours	I	Q4 2013				
MEDI3617 [#]	anti-ANG-2 MAb	solid tumours	I	Q4 2010				
MEDI4736 [#] + tremelimumab	anti-PD-L1 MAb + anti-CTLA-4 MAb	solid tumors	I	Q4 2013				
MEDI4736 [#] + dabrafenib + trametinib ²	anti-PD-L1 MAb + BRAF inhibitor + MEK inhibitor	melanoma	I	Q1 2014				
MEDI4736 [#] + Iressa	anti-PD-L1 MAb + EGFR inhibitor	NSCLC	I	Q2 2014				
MEDI4736 [#] + MEDI0680	anti-PD-L1 MAb + anti-PD-1 MAb	solid tumours	I	Q2 2014				
MEDI-551 [#] + rituximab ³	anti-CD19 MAb + anti-CD20 MAb	haematological malignancies	I	Q2 2014				

NMEs

Phases I and II (continued)

Compound	Mechanism	Area Under Investigation	Phase	Date Commenced Phase	Estimated Filing			
					US	EU	Japan	China
Oncology (continued)								
MEDI6469 [#]	murine anti-OX40 MAb	solid tumours	I	Q1 2006				
moxetumomab pasudotox [#]	anti-CD22 recombinant immunotoxin	pALL	I	Q3 2008				
tremelimumab + <i>Iressa</i>	anti-CTLA-4 MAb + EGFR inhibitor	NSCLC	I	Q2 2014				
Respiratory, Inflammation and Autoimmunity								
AZD2115 [#]	MABA	COPD	II	Q2 2012				
AZD9412 [#] (SNG001)	inhaled interferon β	asthma / COPD	II	Q1 2010				
anifrolumab [#]	anti-IFN-alphaR MAb	SLE	II	Q1 2012				
brodalumab [#]	anti-IL-17R MAb	asthma	II	Q2 2013				
mavrilimumab [#]	anti-GM-CSFR MAb	rheumatoid arthritis	II	Q1 2010				
MEDI2070 [#]	anti-IL-23 MAb	Crohn's disease	II	Q1 2013				
MEDI7183 [#]	anti-a4b7 MAb	Crohn's disease / ulcerative colitis	II	Q4 2012				
MEDI9929 [#]	anti-TSLP MAb	asthma	II	Q2 2014				
PT010	LAMA / LABA / ICS	COPD	II	Q2 2014				
RDEA3170	selective uric acid reabsorption inhibitor (URAT1)	chronic management of hyperuricaemia in patients with gout	II	Q3 2013				
sifalimumab [#]	anti-IFN-alpha MAb	SLE	II	Q3 2008				
tralokinumab	anti-IL-13 MAb	asthma / IPF	II	Q1 2008				
AZD1419 [#]	TLR9 agonist	asthma	I	Q3 2013				
AZD7594	inhaled SGRM	asthma / COPD	I	Q3 2012 ⁴				
AZD7624	inhaled P38 inhibitor	COPD	I	Q1 2013				
AZD8848 [#]	inhaled TLR7 agonist	asthma	I	Q2 2012				
MEDI-551 [#]	anti-CD19 MAb	multiple sclerosis	I	Q3 2012				
MEDI4920	anti-CD40L-Tn3 fusion protein	primary Sjögren's syndrome	I	Q2 2014				
MEDI5872 [#]	anti-B7RP1 MAb	SLE	I	Q4 2008				
Infection								
AZD5847	oxazolidinone anti-bacterial inhibitor	tuberculosis	II	Q4 2012				
CXL [#]	beta lactamase inhibitor / cephalosporin	MRSA	II	Q4 2010				
ATM AVI	monobactam / beta lactamase inhibitor	targeted serious bacterial infections	I	Q4 2012				
AZD0914	GyrAR	serious bacterial infections	I	Q4 2013				

NMEs

Phases I and II (continued)

Compound	Mechanism	Area Under Investigation	Phase	Date Commenced Phase	Estimated Filing			
					US	EU	Japan	China
Infection (continued)								
MEDI-550	pandemic influenza virus vaccine	pandemic influenza prophylaxis	I	Q2 2006				
MEDI-559	paediatric RSV vaccine	RSV prophylaxis	I	Q4 2008				
MEDI4893	MAB binding to <i>S. aureus</i> toxin	hospital-acquired pneumonia / serious <i>S. aureus</i> infection	I	Q1 2013				
MEDI7510	RSV sF+GLA-SE	prevention of RSV disease in older adults	I	Q2 2014				
MEDI8897 [#]	anti-RSV MAb-YTE	passive RSV prophylaxis	I	Q2 2014				
Neuroscience								
AZD3241	myeloperoxidase inhibitor	multiple system atrophy ⁵	II	Q2 2012				
AZD5213	histamine-3 receptor antagonist	Tourette's syndrome / neuropathic pain	II	Q4 2013				
AZD3293 [#]	beta-secretase inhibitor	Alzheimer's disease	I	Q4 2012				
AZD6423	NMDA antagonist	suicidal ideation	I	Q3 2013				
MEDI1814	anti-amyloid beta MAb	Alzheimer's disease	I	Q2 2014				

[#] Partnered product.

¹ Fluid retention indication for tenapanor terminated in Q2.

² MedImmune-sponsored study in collaboration with GSK.

³ MedImmune-sponsored study in collaboration with Genentech.

⁴ Original programme terminated in 2013. Programme now reinitiated.

⁵ Multiple system atrophy is now the lead indication for this molecule.

Line Extensions

Compound	Mechanism	Area Under Investigation	Date Commenced Phase	Estimated Filing			
				US	EU	Japan	China
Cardiovascular and Metabolism							
<i>Brilinta / Brilique</i> ¹ EUCLID	ADP receptor antagonist	outcomes study in patients with peripheral artery disease	Q4 2012	2016	2016	2017	2017
<i>Brilinta / Brilique</i> ¹ PEGASUS-TIMI 54	ADP receptor antagonist	outcomes study in patients with prior myocardial infarction	Q4 2010	2015	2015	2015	2017
<i>Brilinta / Brilique</i> ¹ SOCRATES	ADP receptor antagonist	outcomes study in patients with stroke or TIA	Q1 2014	2016	2016	2016	2017
<i>Brilinta / Brilique</i> ¹ THEMIS	ADP receptor antagonist	outcomes study in patients with Type 2 diabetes and CAD, but without a previous history of MI or stroke	Q1 2014	2017	2017	2018	2018
<i>Bydureon Dual Chamber Pen</i>	GLP-1 receptor agonist	diabetes		Approved	Filed	Filed	
<i>Bydureon EXSCEL</i>	GLP-1 receptor agonist	outcomes study	Q2 2010	2018	2018	2018	
<i>Bydureon weekly suspension</i>	GLP-1 receptor agonist	diabetes	Q1 2013	2015	2015		
<i>Farxiga / Forxiga</i> ² DECLARE-TIMI 58	SGLT-2 inhibitor	outcomes study	Q2 2013	2020	2020		
<i>Kombiglyze XR FDC / Komboglyze FDC</i> ³	DPP-4 inhibitor / metformin FDC	diabetes		Launched	Launched		Filed
<i>Onglyza SAVOR-TIMI 53</i>	DPP-4 inhibitor	outcomes study	Q2 2010	Filed	Filed		2015
saxagliptin / dapagliflozin FDC	DPP-4 inhibitor / SGLT-2 inhibitor FDC	diabetes	Q2 2012	2015	2015		
<i>Xigduo XR FDC / Xigduo FDC</i> ⁴	SGLT-2 inhibitor / metformin FDC	diabetes		Filed	Launched		
Oncology							
<i>Caprelsa</i>	VEGFR / EGFR tyrosine kinase inhibitor with RET kinase activity	differentiated thyroid cancer	Q2 2013	2016	2016	2016	
<i>Faslodex FALCON</i>	oestrogen receptor antagonist	1st line advanced breast cancer	Q4 2012	2016	2016	2016	2016
<i>Iressa IMPRESS</i>	EGFR tyrosine kinase inhibitor	treatment beyond progression	Q1 2012		2015	2015	2015
Respiratory, Inflammation and Autoimmunity							
<i>Symbicort</i> ⁵	ICS / LABA	Breath Actuated Inhaler asthma / COPD					

Line Extensions (continued)

Compound	Mechanism	Area Under Investigation	Date Commenced Phase	Estimated Filing			
				US	EU	Japan	China
Neuroscience							
<i>Diprivan</i> [#]	sedative and anaesthetic	conscious sedation		N/A	Launched	Q4 2014	Launched
Gastrointestinal							
<i>Entocort</i>	glucocorticoid steroid	Crohn's disease / ulcerative colitis		Launched	Launched	2015	N/A
linaclotide [#]	GC-C receptor peptide agonist	irritable bowel syndrome with constipation (IBS-C)		N/A	N/A	N/A	2015
<i>Nexium</i>	proton pump inhibitor	peptic ulcer bleeding		Launched	Launched	N/A	Launched

Partnered product.

1 *Brilinta* in the US; *Brilique* in rest of world.

2 *Farxiga* in the US; *Forxiga* in rest of world.

3 *Kombiglyze XR* in the US; *Komboglyze FDC* in the EU.

4 *Xigduo XR FDC* in the US; *Xigduo FDC* in the EU.

5 Development of a new BAI device is ongoing.

Terminations (discontinued projects between 1 April and 30 June 2014)

NME / Line Extension	Compound	Reason for Discontinuation	Area Under Investigation
NME	AZD4721 ¹	Safety / efficacy	COPD
NME	AZD5069 ¹	Safety / efficacy	asthma
NME	MEDI8968 [#]	Safety / efficacy	COPD / HS
NME	MEDI9287	economic	avian influenza

Partnered product.

1 Termination decision made July 2014.