

1  
2 **SUMMARY OF PRODUCT CHARACTERISTICS**

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4  
5 **1. NAME OF THE MEDICINAL PRODUCT**

6  
7 Enhertu 100 mg powder for concentrate for solution for infusion  
8  
9

10 **QUALITATIVE AND QUANTITATIVE COMPOSITION**

11  
12 One vial of powder for concentrate for solution for infusion contains 100 mg of trastuzumab deruxtecan. After  
13 reconstitution, one vial of 5 mL solution contains 20 mg/mL of trastuzumab deruxtecan (see section 6.6).  
14

15 Trastuzumab deruxtecan is an antibody-drug conjugate (ADC) that contains a humanised anti-HER2 IgG1  
16 monoclonal antibody (mAb) with the same amino acid sequence as trastuzumab, produced by mammalian  
17 (Chinese Hamster Ovary) cells, covalently linked to DXd, an exatecan derivative and a topoisomerase I  
18 inhibitor, via a tetrapeptide-based cleavable linker. Approximately 8 molecules of deruxtecan are attached to  
19 each antibody molecule.  
20

21 For the full list of excipients, see section 6.1.  
22  
23

24 **3. PHARMACEUTICAL FORM**

25  
26 Powder for concentrate for solution for infusion.  
27

28 White to yellowish-white lyophilised powder.  
29  
30

31 **4. CLINICAL PARTICULARS**

32  
33 **4.1 Therapeutic indications**

34  
35 Breast cancer

36  
37 *HER2-positive breast cancer*

38 Enhertu as monotherapy is indicated for the treatment of adult patients with unresectable or metastatic HER2-  
39 positive breast cancer who have received one or more prior anti-HER2-based regimens.  
40

41 *HER2-low breast cancer*

42 Enhertu as monotherapy is indicated for the treatment of adult patients with unresectable or metastatic HER2-  
43 low breast cancer who have received prior chemotherapy in the metastatic setting or developed disease  
44 recurrence during or within 6 months of completing adjuvant chemotherapy (see section 4.2).  
45

46 Non-small cell lung cancer (NSCLC)

47  
48 Enhertu as monotherapy is indicated for the treatment of adult patients with advanced NSCLC whose tumours  
49 have an activating HER2 (ERBB2) mutation and who require systemic therapy following platinum-based  
50 chemotherapy with or without immunotherapy.  
51

52 Gastric cancer

53  
54 Enhertu as monotherapy is indicated for the treatment of adult patients with advanced HER2-positive gastric  
55 or gastroesophageal junction (GEJ) adenocarcinoma who have received a prior trastuzumab-based regimen.  
56

57 **4.2 Posology and method of administration**

58

59 Enhertu should be prescribed by a physician and administered under the supervision of a healthcare  
60 professional experienced in the use of anticancer medicinal products. In order to prevent medicinal product  
61 errors, it is important to check the vial labels to ensure that the medicinal product being prepared and  
62 administered is Enhertu (trastuzumab deruxtecan) and not trastuzumab or trastuzumab emtansine.

63

64 Enhertu should not be substituted with trastuzumab or trastuzumab emtansine.

65

66 Patient selection

67

68 *HER2-positive breast cancer*

69 Patients treated with trastuzumab deruxtecan for breast cancer should have documented HER2-positive  
70 tumour status, defined as a score of 3 + by immunohistochemistry (IHC) or a ratio of  $\geq 2.0$  by *in situ*  
71 hybridization (ISH) or by fluorescence *in situ* hybridization (FISH) assessed by a CE-marked *in vitro*  
72 diagnostic (IVD) medical device. If a CE-marked IVD is not available, the HER2 status should be assessed  
73 by an alternate validated test.

74

75 *HER2-low breast cancer*

76 Patients treated with trastuzumab deruxtecan should have documented HER2-low tumour status, defined as  
77 a score of IHC 1+ or IHC 2+/ISH-, as assessed by a CE-marked IVD medical device. If a CE-marked IVD is  
78 not available, the HER2 status should be assessed by an alternate validated test (see section 5.1).

79

80 *NSCLC*

81 Patients treated with trastuzumab deruxtecan for advanced NSCLC should have an activating HER2 (ERBB2)  
82 mutation detected by a CE-marked *in vitro* diagnostic (IVD) medical device. If a CE-marked IVD is not  
83 available, the HER2 mutation status should be assessed by an alternate validated test.

84

85 *Gastric cancer*

86 Patients treated with trastuzumab deruxtecan for gastric or gastroesophageal junction cancer should have  
87 documented HER2-positive tumour status, defined as a score of 3 + by immunohistochemistry (IHC) or a  
88 ratio of  $\geq 2$  by *in situ* hybridization (ISH) or by fluorescence *in situ* hybridization (FISH), assessed by a CE-  
89 marked *in vitro* diagnostic (IVD) medical device. If a CE-marked IVD is not available, the HER2 status  
90 should be assessed by an alternate validated test.

91

92 Posology

93

94 *Breast cancer*

95 The recommended dose of Enhertu is 5.4 mg/kg given as an intravenous infusion once every 3 weeks  
96 (21-day cycle) until disease progression or unacceptable toxicity.

97

98 *NSCLC*

99 The recommended dose of Enhertu is 5.4 mg/kg given as an intravenous infusion once every 3 weeks  
100 (21-day cycle) until disease progression or unacceptable toxicity.

101

102 *Gastric cancer*

103 The recommended dose of Enhertu is 6.4 mg/kg given as an intravenous infusion once every 3 weeks  
104 (21-day cycle) until disease progression or unacceptable toxicity.

105 The initial dose should be administered as a 90-minute intravenous infusion. If the prior infusion was  
106 well tolerated, subsequent doses of Enhertu may be administered as 30-minute infusions.

107

108 The infusion rate of Enhertu should be slowed or interrupted if the patient develops infusion-related  
109 symptoms (see section 4.8). Enhertu should be permanently discontinued in case of severe infusion  
110 reactions.

111

112 Premedication

113

114 Enhertu is emetogenic (see section 4.8), which includes delayed nausea and/or vomiting. Prior to each  
115 dose of Enhertu, patients should be premedicated with a combination regimen of two or three medicinal  
116 products (e.g., dexamethasone with either a 5-HT3 receptor antagonist and/or an NK1 receptor  
117 antagonist, as well as other medicinal products as indicated) for prevention of chemotherapy-induced  
118 nausea and vomiting.

119

120 Dose modifications

121

122 Management of adverse reactions may require temporary interruption, dose reduction, or treatment  
123 discontinuation of Enhertu per guidelines provided in Tables 1 and 2.

124

125 Enhertu dose should not be re-escalated after a dose reduction is made.

126

127 **Table 1: Dose reduction schedule**

Dose reduction schedule	Breast cancer and NSCLC	Gastric cancer
Recommended starting dose	5.4 mg/kg	6.4 mg/kg
First dose reduction	4.4 mg/kg	5.4 mg/kg
Second dose reduction	3.2 mg/kg	4.4 mg/kg
Requirement for further dose reduction	Discontinue treatment	Discontinue treatment

128

129 **Table 2: Dose modifications for adverse reactions**

Adverse reaction	Severity	Treatment modification
Interstitial lung disease (ILD)/pneumonitis	Asymptomatic ILD/pneumonitis (Grade 1)	Interrupt Enhertu until resolved to Grade 0, then: <ul style="list-style-type: none"> <li>if resolved in 28 days or less from date of onset, maintain dose.</li> <li>if resolved in greater than 28 days from date of onset, reduce dose one level (see Table 1).</li> <li>consider corticosteroid treatment as soon as ILD/pneumonitis is suspected (see section 4.4).</li> </ul>
	Symptomatic ILD/pneumonitis (Grade 2 or greater)	<ul style="list-style-type: none"> <li>Permanently discontinue Enhertu.</li> <li>Promptly initiate corticosteroid treatment as soon as ILD/pneumonitis is suspected (see section 4.4).</li> </ul>
Neutropenia	Grade 3 (less than $1.0-0.5 \times 10^9/L$ )	<ul style="list-style-type: none"> <li>Interrupt Enhertu until resolved to Grade 2 or less, then maintain dose.</li> </ul>

Adverse reaction	Severity	Treatment modification
	Grade 4 (less than $0.5 \times 10^9/L$ )	<ul style="list-style-type: none"> <li>Interrupt Enhertu until resolved to Grade 2 or less.</li> <li>Reduce dose by one level (see Table 1).</li> </ul>
Febrile neutropenia	Absolute neutrophil count of less than $1.0 \times 10^9/L$ and temperature greater than $38.3^\circ C$ or a sustained temperature of $38^\circ C$ or greater for more than one hour.	<ul style="list-style-type: none"> <li>Interrupt Enhertu until resolved.</li> <li>Reduce dose by one level (see Table 1).</li> </ul>
Left ventricular ejection fraction (LVEF) decreased	LVEF greater than 45% and absolute decrease from baseline is 10% to 20%	<ul style="list-style-type: none"> <li>Continue treatment with Enhertu.</li> </ul>
	LVEF 40% to 45% And absolute decrease from baseline is less than 10%	<ul style="list-style-type: none"> <li>Continue treatment with Enhertu.</li> <li>Repeat LVEF assessment within 3 weeks.</li> </ul>
	And absolute decrease from baseline is 10% to 20%	<ul style="list-style-type: none"> <li>Interrupt Enhertu.</li> <li>Repeat LVEF assessment within 3 weeks.</li> <li>If LVEF has not recovered to within 10% from baseline, permanently discontinue Enhertu.</li> <li>If LVEF recovers to within 10% from baseline, resume treatment with Enhertu at the same dose.</li> </ul>
	LVEF less than 40% or absolute decrease from baseline is greater than 20%	<ul style="list-style-type: none"> <li>Interrupt Enhertu.</li> <li>Repeat LVEF assessment within 3 weeks.</li> <li>If LVEF of less than 40% or absolute decrease from baseline of greater than 20% is confirmed, permanently discontinue Enhertu.</li> </ul>
	Symptomatic congestive heart failure (CHF)	<ul style="list-style-type: none"> <li>Permanently discontinue Enhertu.</li> </ul>

130 Toxicity grades are in accordance with National Cancer Institute Common Terminology Criteria for  
131 Adverse Events Version 5.0 (NCI-CTCAE v.5.0).

132

### 133 Delayed or missed dose

134

135 If a planned dose is delayed or missed, it should be administered as soon as possible without waiting  
136 until the next planned cycle. The schedule of administration should be adjusted to maintain a 3-week  
137 interval between doses. The infusion should be administered at the dose and rate the patient tolerated in  
138 the most recent infusion.

139

### 140 Special populations

141

#### 142 *Elderly*

143 No dose adjustment of Enhertu is required in patients aged 65 years or older. Limited data are available  
144 in patients  $\geq 75$  years of age.

145

#### 146 *Renal impairment*

147 No dose adjustment is required in patients with mild (creatinine clearance  $[CLCr] \geq 60$  and  
148  $< 90$  mL/min) or moderate ( $CLCr \geq 30$  and  $< 60$  mL/min) renal impairment (see section 5.2). The  
149 potential need for dose adjustment in patients with severe renal impairment or end-stage renal disease  
150 cannot be determined as severe renal impairment was an exclusion criterion in clinical studies. A higher  
151 incidence of Grade 1 and 2 ILD/pneumonitis leading to an increase in discontinuation of therapy has  
152 been observed in patients with moderate renal impairment. In patients with moderate renal impairment  
153 at baseline who received Enhertu 6.4 mg/kg, a higher incidence of serious adverse reactions was  
154 observed compared to those with normal renal function. Patients with moderate or severe renal  
155 impairment should be monitored carefully for adverse reactions including ILD/pneumonitis (see  
156 section 4.4).

157

158 *Hepatic impairment*

159 No dose adjustment is required in patients with total bilirubin  $\leq$  1.5 times upper limit of normal (ULN),  
160 irrespective of aspartate transaminase (AST) value. The potential need for dose adjustment in patients  
161 with total bilirubin  $>$  1.5 times ULN, irrespective of AST value, cannot be determined due to limited  
162 data; therefore, these patients should be monitored carefully (see sections 4.4 and 5.2).

163

164 *Paediatric population*

165 The safety and efficacy of Enhertu in children and adolescents below the age of 18 years have not been  
166 established. No data are available.

167

168 Method of administration

169

170 Enhertu is for intravenous use. It must be reconstituted and diluted by a healthcare professional and  
171 administered as an intravenous infusion. Enhertu must not be administered as an intravenous push or  
172 bolus.

173

174 For instructions on reconstitution and dilution of the medicinal product before administration, see  
175 section 6.6.

176

177 **4.3 Contraindications**

178

179 Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

180

181 **4.4 Special warnings and precautions for use**

182

183 In order to prevent medicinal product errors, it is important to check the vial labels to ensure that the  
184 medicinal product being prepared and administered is Enhertu (trastuzumab deruxtecan) and not  
185 trastuzumab or trastuzumab emtansine.

186

187 Traceability

188

189 In order to improve the traceability of biological medicinal products, the name and the batch number of  
190 the administered product should be clearly recorded.

191

192 Interstitial lung disease/pneumonitis

193

194 Cases of interstitial lung disease (ILD), and/or pneumonitis, have been reported with Enhertu (see  
195 section 4.8). Fatal outcomes have been observed. Patients should be advised to immediately report  
196 cough, dyspnoea, fever and/or any new or worsening respiratory symptoms. Patients should be  
197 monitored for signs and symptoms of ILD/pneumonitis. Evidence of ILD/pneumonitis should be  
198 promptly investigated. Patients with suspected ILD/pneumonitis should be evaluated by radiographic  
199 imaging, preferably a computed tomography (CT) scan. Consultation with a pulmonologist should be  
200 considered. For asymptomatic (Grade 1) ILD/pneumonitis, consider corticosteroid treatment (e.g.,  
201  $\geq$  0.5 mg/kg/day prednisolone or equivalent). Enhertu should be withheld until recovery to Grade 0 and  
202 may be resumed according to instructions in Table 2 (see section 4.2). For symptomatic  
203 ILD/pneumonitis (Grade 2 or greater), promptly initiate corticosteroid treatment (e.g.,  $\geq$  1 mg/kg/day  
204 prednisolone or equivalent) and continue for at least 14 days followed by gradual taper for at least  
205 4 weeks. Enhertu should be permanently discontinued in patients who are diagnosed with symptomatic  
206 (Grade 2 or greater) ILD/pneumonitis (see section 4.2). Patients with a history of ILD/pneumonitis or  
207 patients with moderate or severe renal impairment may be at increased risk of developing  
208 ILD/pneumonitis and should be monitored carefully (see section 4.2).

209

210 Neutropenia

211

212 Cases of neutropenia, including febrile neutropenia with a fatal outcome, were reported in clinical  
213 studies of Enhertu. Complete blood counts should be monitored prior to initiation of Enhertu and prior

214 to each dose, and as clinically indicated. Based on the severity of neutropenia, Enhertu may require dose  
215 interruption or reduction (see section 4.2).

216

#### 217 Left ventricular ejection fraction decrease

218

219 Left ventricular ejection fraction (LVEF) decrease has been observed with anti-HER2 therapies.  
220 Standard cardiac function testing (echocardiogram or MUGA [multigated acquisition] scanning) should  
221 be performed to assess LVEF prior to initiation of Enhertu and at regular intervals during treatment as  
222 clinically indicated. LVEF decrease should be managed through treatment interruption. Enhertu should  
223 be permanently discontinued if LVEF of less than 40% or absolute decrease from baseline of greater  
224 than 20% is confirmed. Enhertu should be permanently discontinued in patients with symptomatic  
225 congestive heart failure (CHF) (see Table 2 in section 4.2).

226

#### 227 Embryo-foetal toxicity

228

229 Enhertu can cause foetal harm when administered to a pregnant woman. In post-marketing reports, use  
230 of trastuzumab, a HER2 receptor antagonist, during pregnancy resulted in cases of oligohydramnios  
231 manifesting as fatal pulmonary hypoplasia, skeletal abnormalities and neonatal death. Based on findings  
232 in animals and its mechanism of action, the topoisomerase I inhibitor component of Enhertu, DXd, can  
233 also cause embryo-foetal harm when administered to a pregnant woman (see section 4.6).

234

235 The pregnancy status of females of reproductive potential should be verified prior to the initiation of  
236 Enhertu. The patient should be informed of the potential risks to the foetus. Females of reproductive  
237 potential should be advised to use effective contraception during treatment and for at least 7 months  
238 following the last dose of Enhertu. Male patients with female partners of reproductive potential should  
239 be advised to use effective contraception during treatment with Enhertu and for at least 4 months after  
240 the last dose of Enhertu (see section 4.6).

241

#### 242 Patients with moderate or severe hepatic impairment

243

244 There are limited data in patients with moderate hepatic impairment and no data in patients with severe  
245 hepatic impairment. As metabolism and biliary excretion are the primary routes of elimination of the  
246 topoisomerase I inhibitor, DXd, Enhertu should be administered with caution in patients with moderate  
247 and severe hepatic impairment (see sections 4.2 and 5.2).

248

### 249 **4.5 Interaction with other medicinal products and other forms of interaction**

250

251 Co-administration with ritonavir, an inhibitor of OATP1B, CYP3A and P-gp, or with itraconazole, a  
252 strong inhibitor of CYP3A and P-gp, resulted in no clinically meaningful (approximately 10-20%)  
253 increase in exposures of trastuzumab deruxtecan or the released topoisomerase I inhibitor, DXd. No  
254 dose adjustment is required during co-administration of trastuzumab deruxtecan with medicinal products  
255 that are inhibitors of CYP3A or OATP1B or P-gp transporters (see section 5.2).

256

### 257 **4.6 Fertility, pregnancy and lactation**

258

#### 259 Women of childbearing potential/Contraception in males and females

260

261 Pregnancy status of women of childbearing potential should be verified prior to initiation of Enhertu.

262

263 Women of childbearing potential should use effective contraception during treatment with Enhertu and  
264 for at least 7 months following the last dose.

265

266 Men with female partners of childbearing potential should use effective contraception during treatment  
267 with Enhertu and for at least 4 months following the last dose.

268

269 Pregnancy

270  
271 There is no available data on the use of Enhertu in pregnant women. However, trastuzumab, a  
272 HER2 receptor antagonist, can cause foetal harm when administered to a pregnant woman. In post-  
273 marketing reports, use of trastuzumab during pregnancy resulted in cases of oligohydramnios in some  
274 cases manifested as fatal pulmonary hypoplasia, skeletal abnormalities and neonatal death. Based on  
275 findings in animals and its mechanism of action, the topoisomerase I inhibitor component of Enhertu,  
276 DXd, can be expected to cause embryo-foetal harm when administered to a pregnant woman (see  
277 section 5.3).

278  
279 Administration of Enhertu to pregnant women is not recommended, and patients should be informed of  
280 the potential risks to the foetus before they become pregnant. Women who become pregnant must  
281 immediately contact their doctor. If a woman becomes pregnant during treatment with Enhertu or within  
282 7 months following the last dose of Enhertu, close monitoring is recommended.

283  
284 Breast-feeding

285  
286 It is not known if trastuzumab deruxtecan is excreted in human milk. Human IgG is secreted in human  
287 milk, and the potential for absorption and serious adverse reactions to the infant is unknown. Therefore,  
288 women should not breast-feed during treatment with Enhertu or for 7 months after the last dose. A  
289 decision should be made to discontinue breast-feeding or to discontinue treatment taking into account  
290 the benefit of breast-feeding for the child and/or benefit of treatment with Enhertu for the mother.

291  
292 Fertility

293  
294 No dedicated fertility studies have been conducted with trastuzumab deruxtecan. Based on results from  
295 animal toxicity studies, Enhertu may impair male reproductive function and fertility. It is not known  
296 whether trastuzumab deruxtecan or its metabolites are found in seminal fluid. Before starting treatment,  
297 male patients should be advised to seek counselling on sperm storage. Male patients must not freeze or  
298 donate sperm throughout the treatment period, and for at least 4 months after the final dose of Enhertu.

299  
300 **4.7 Effects on ability to drive and use machines**

301  
302 Enhertu may have a minor influence on the ability to drive and use machines. Patients should be advised  
303 to use caution when driving or operating machinery in case they experience fatigue, headache or  
304 dizziness during treatment with Enhertu (see section 4.8).

305  
306 **4.8 Undesirable effects**

307  
308 Summary of the safety profile

309  
310 *Enhertu 5.4 mg/kg*

311 The pooled safety population has been evaluated for patients who received at least one dose of Enhertu  
312 5.4 mg/kg (n = 1449) across multiple tumour types in clinical studies. The median duration of treatment  
313 in this pool was 9.8 months (range: 0.7 to 45.1 months).

314  
315 The most common adverse reactions were nausea (75.0%), fatigue (57.3%), vomiting (42.1%), alopecia  
316 (37.6%), neutropenia (35.2%), constipation (35.0%), anaemia (34.4%), decreased appetite (33.1%),  
317 diarrhoea (28.8%), transaminases increased (26.5%), musculoskeletal pain (26.2%), thrombocytopenia  
318 (24.5%) and leukopenia (23.7%).

319  
320 The most common National Cancer Institute – Common Terminology Criteria for Adverse Events (NCI-  
321 CTCAE v.5.0) Grade 3 or 4 adverse reactions were neutropenia (17.0%), anaemia (9.5%), fatigue  
322 (8.4%), leukopenia (6.4%), nausea (5.9%), thrombocytopenia (5.0%), lymphopenia (4.8%),  
323 hypokalaemia (3.8%), transaminases increased (3.6%), vomiting (2.7%), diarrhoea (2.0%), decreased  
324 appetite (1.7%), pneumonia (1.4%) and ejection fraction decreased (1.1%). Grade 5 adverse reactions  
325 occurred in 1.4% of patients, including ILD (1.0%).

326  
327 Dose interruptions due to adverse reactions occurred in 34.3% of patients treated with Enhertu. The  
328 most frequent adverse reactions associated with dose interruption were neutropenia (13.3%), fatigue  
329 (5.0%), anaemia (4.7%), leukopenia (3.7%), thrombocytopenia (3.0%), upper respiratory tract infection  
330 (2.7%) and ILD (2.6%). Dose reductions occurred in 20.6% of patients treated with Enhertu. The most  
331 frequent adverse reactions associated with dose reduction were fatigue (5.0%), nausea (4.9%)  
332 neutropenia (3.5%) and thrombocytopenia (2.1%). Discontinuation of therapy due to an adverse reaction  
333 occurred in 13.0% of patients treated with Enhertu. The most frequent adverse reaction associated with  
334 permanent discontinuation was ILD (9.2%).

#### 335 336 *Enhertu 6.4 mg/kg*

337 The pooled safety population has been evaluated for patients who received at least one dose of Enhertu  
338 6.4 mg/kg (n = 669), across multiple tumour types in clinical studies. The median duration of treatment  
339 in this pool was 5.7 months (range: 0.7 to 41.0 months).

340  
341 The most common adverse reactions were nausea (72.2%), fatigue (58.4%), decreased appetite (53.5%),  
342 anaemia (44.7%), neutropenia (43.5%), vomiting (40.1%), diarrhoea (35.9%), alopecia (35.4%),  
343 constipation (32.3%), thrombocytopenia (30.8%), leukopenia (29.3%) and transaminases increased  
344 (24.2%).

345  
346 The most common National Cancer Institute – Common Terminology Criteria for Adverse Events (NCI-  
347 CTCAE v.5.0) Grade 3 or 4 adverse reactions were neutropenia (28.7%), anaemia (22.6%), leukopenia  
348 (13.3%), thrombocytopenia (9.1%), fatigue (8.4%), decreased appetite (7.8%), lymphopenia (6.9%),  
349 nausea (5.8%), transaminases increased (4.3%), hypokalaemia (4.3%), pneumonia (3.1%), febrile  
350 neutropenia (2.8%), vomiting (2.4%), diarrhoea (2.2%), weight decreased (1.9%), blood alkaline  
351 phosphatase increased (1.6%), interstitial lung disease (ILD, 1.5%), dyspnoea (1.2%), ejection fraction  
352 decreased (1.2%), and blood bilirubin increased (1.2%). Grade 5 adverse reactions occurred in 2.7% of  
353 patients, including ILD (2.1%).

354  
355 Dose interruptions due to adverse reactions occurred in 40.7% of patients treated with Enhertu. The  
356 most frequent adverse reactions associated with dose interruption were neutropenia (16.6%), anaemia  
357 (7.8%), fatigue (5.7%), ILD (4.8%), leukopenia (4.2%), decreased appetite (3.7%), pneumonia (3.6%),  
358 upper respiratory tract infection (3.4%) and thrombocytopenia (3.1%). Dose reductions occurred in  
359 31.1% of patients treated with Enhertu. The most frequent adverse reactions associated with dose  
360 reduction were fatigue (10.6%), neutropenia (6.6%), nausea (6.4%), decreased appetite (5.4%) and  
361 thrombocytopenia (3.0%). Discontinuation of therapy due to an adverse reaction occurred in 17.6% of  
362 patients treated with Enhertu. The most frequent adverse reaction associated with permanent  
363 discontinuation was ILD (12.9%).

364  
365 In patients with gastric cancer treated with Enhertu 6.4 mg/kg (n = 229), 25.3% received a transfusion  
366 within 28 days after onset of anaemia or thrombocytopenia. Transfusions were primarily for anaemia.

#### 367 368 Tabulated list of adverse reactions

369  
370 The adverse reactions in patients who received at least one dose of Enhertu in clinical studies are  
371 presented in Table 3. The adverse reactions are listed by MedDRA system organ class (SOC) and  
372 categories of frequency. Frequency categories are defined as: very common ( $\geq 1/10$ ), common  
373 ( $\geq 1/100$  to  $< 1/10$ ), uncommon ( $\geq 1/1,000$  to  $< 1/100$ ), rare ( $\geq 1/10,000$  to  $< 1/1,000$ ), very rare  
374 ( $< 1/10,000$ ), and not known (cannot be estimated from the available data). Within each frequency  
375 grouping, adverse reactions are presented in the order of decreasing seriousness.

376



377  
378

**Table 3: Adverse reactions in patients treated with trastuzumab deruxtecan 5.4 mg/kg and 6.4 mg/kg in multiple tumour types**

System organ class Frequency category	5.4 mg/kg Adverse reaction	6.4 mg/kg Adverse reaction
<b>Infections and infestations</b>		
Very common	upper respiratory tract infection <sup>a</sup>	pneumonia, upper respiratory tract infection <sup>a</sup>
Common	pneumonia	
<b>Blood and lymphatic system disorders</b>		
Very common	anaemia <sup>b</sup> , neutropenia <sup>c</sup> , thrombocytopenia <sup>d</sup> , leukopenia <sup>e</sup> , lymphopenia <sup>f</sup>	anaemia <sup>b</sup> , neutropenia <sup>c</sup> , thrombocytopenia <sup>d</sup> , leukopenia <sup>e</sup> , lymphopenia <sup>f</sup>
Common		febrile neutropenia
Uncommon	febrile neutropenia	
<b>Metabolism and nutrition disorders</b>		
Very common	hypokalaemia <sup>g</sup> , decreased appetite	hypokalaemia <sup>g</sup> , decreased appetite
Common	dehydration	dehydration
<b>Nervous system disorders</b>		
Very common	headache <sup>h</sup> , dizziness	headache <sup>h</sup> , dysgeusia
Common	dysgeusia	dizziness
<b>Eye disorders</b>		
Common	dry eye, vision blurred <sup>i</sup>	dry eye, vision blurred <sup>i</sup>
<b>Respiratory, thoracic and mediastinal disorders</b>		
Very common	interstitial lung disease <sup>j</sup> , dyspnoea, cough, epistaxis	interstitial lung disease <sup>j</sup> , dyspnoea, cough
Common		epistaxis
<b>Gastrointestinal disorders</b>		
Very common	nausea, vomiting, constipation, diarrhoea, abdominal pain <sup>k</sup> , stomatitis <sup>l</sup> , dyspepsia	nausea, vomiting, diarrhoea, constipation, abdominal pain <sup>k</sup> , stomatitis <sup>l</sup>
Common	abdominal distension, gastritis, flatulence	dyspepsia, abdominal distension, gastritis, flatulence
<b>Hepatobiliary disorders</b>		
Very common	transaminases increased <sup>m</sup>	transaminases increased <sup>m</sup>
<b>Skin and subcutaneous tissue disorders</b>		
Very common	alopecia	alopecia
Common	rash <sup>n</sup> , pruritus, skin hyperpigmentation <sup>o</sup>	rash <sup>n</sup> , pruritus, skin hyperpigmentation <sup>o</sup>
<b>Musculoskeletal and connective tissue disorders</b>		
Very common	musculoskeletal pain <sup>p</sup>	musculoskeletal pain <sup>p</sup>

System organ class Frequency category	5.4 mg/kg Adverse reaction	6.4 mg/kg Adverse reaction
<b>General disorders and administration site condition</b>		
Very common	fatigue <sup>q</sup> , pyrexia	fatigue <sup>q</sup> , pyrexia, oedema peripheral
Common	oedema peripheral	
<b>Investigations</b>		
Very common	ejection fraction decreased <sup>r</sup> , weight decreased	ejection fraction decreased <sup>r</sup> , weight decreased
Common	blood alkaline phosphatase increased, blood bilirubin increased <sup>s</sup> , blood creatinine increased	blood alkaline phosphatase increased, blood bilirubin increased <sup>s</sup> , blood creatinine increased
<b>Injury, poisoning and procedural complications</b>		
Common	infusion-related reactions <sup>t</sup>	infusion-related reactions <sup>t</sup>

379 <sup>a</sup> Includes influenza, influenza-like illness, nasopharyngitis, pharyngitis, sinusitis, rhinitis, laryngitis  
380 and upper respiratory tract infection.

381 <sup>b</sup> For all tumour types at 5.4 mg/kg, includes anaemia, haemoglobin decreased, red blood cell count  
382 decreased and haematocrit decreased. For all tumour types at 6.4 mg/kg, includes anaemia,  
383 haemoglobin decreased and red blood cell count decreased.

384 <sup>c</sup> Includes neutropenia and neutrophil count decreased.

385 <sup>d</sup> Includes thrombocytopenia and platelet count decreased.

386 <sup>e</sup> Includes leukopenia and white blood cell count decreased.

387 <sup>f</sup> Includes lymphopenia and lymphocyte count decreased.

388 <sup>g</sup> Includes hypokalaemia and blood potassium decreased.

389 <sup>h</sup> For all tumour types at 5.4 mg/kg, includes headache, sinus headache and migraine. For all tumour  
390 types at 6.4 mg/kg, includes headache and migraine.

391 <sup>i</sup> Includes vision blurred and visual impairment.

392 <sup>j</sup> For all tumour types at 5.4 mg/kg, interstitial lung disease includes events that were adjudicated as  
393 ILD: pneumonitis (n = 88), interstitial lung disease (n = 72), organising pneumonia (n = 6), pneumonia  
394 (n = 4), respiratory failure (n = 5), radiation pneumonitis (n = 2), alveolitis (n = 2), pulmonary toxicity  
395 (n = 2), pneumonia fungal (n = 1), pulmonary mass (n = 1), acute respiratory failure (n = 1), lung  
396 infiltration (n = 1), lymphangitis (n = 1), pulmonary fibrosis (n = 1), idiopathic interstitial pneumonia  
397 (n = 1), lung disorder (n = 1), hypersensitivity pneumonitis (n = 1) and lung opacity (n = 1). For all  
398 tumour types at 6.4 mg/kg, interstitial lung disease includes events that were adjudicated as ILD:  
399 pneumonitis (n = 75), interstitial lung disease (n = 39), organising pneumonia (n = 4), respiratory  
400 failure (n = 4), lung opacity (n = 2), pneumonia (n = 1) and radiation pneumonitis (n = 1).

401 <sup>k</sup> Includes abdominal discomfort, gastrointestinal pain, abdominal pain, abdominal pain lower and  
402 abdominal pain upper.

403 <sup>l</sup> For all tumour types at 5.4 mg/kg, includes stomatitis, aphthous ulcer, mouth ulceration, oral mucosa  
404 erosion and oral mucosal eruption. For all tumour types at 6.4 mg/kg, includes only stomatitis.

405 <sup>m</sup> Includes transaminases increased, alanine aminotransferase increased, aspartate aminotransferase  
406 increased, gamma-glutamyltransferase increased, hepatic function abnormal, liver function test  
407 abnormal, liver function test increased and hypertransaminasaemia.

408 <sup>n</sup> For all tumour types at 5.4 mg/kg, includes rash, rash pustular, rash maculo-papular, rash papular,  
409 rash macular and rash pruritic. For all tumour types at 6.4 mg/kg, includes rash, rash pustular, rash  
410 maculo-papular and rash pruritic.

411 <sup>o</sup> For all tumour types at 5.4 mg/kg, includes skin hyperpigmentation, skin discolouration and  
412 pigmentation disorder. For all tumour types at 6.4 mg/kg, includes skin hyperpigmentation and  
413 pigmentation disorder.

414 <sup>p</sup> Includes back pain, myalgia, pain in extremity, musculoskeletal pain, muscle spasms, bone pain, neck  
415 pain, musculoskeletal chest pain and limb discomfort.  
416 <sup>q</sup> Includes asthenia, fatigue, malaise and lethargy.  
417 <sup>r</sup> For all tumour types at 5.4 mg/kg, ejection fraction decreased includes laboratory parameters of LVEF  
418 decrease (n = 214) and/or preferred terms of ejection fraction decreased (n = 52), cardiac failure  
419 (n = 3), cardiac failure congestive (n = 1) and left ventricular dysfunction (n = 2). For all tumour types  
420 at 6.4 mg/kg, ejection fraction decreased includes laboratory parameters of LVEF decrease (n = 97)  
421 and/or preferred terms of ejection fraction decreased (n = 11) and left ventricular dysfunction (n = 1).  
422 <sup>s</sup> For all tumour types at 5.4 mg/kg, includes blood bilirubin increased, hyperbilirubinaemia, bilirubin  
423 conjugated increased and blood bilirubin unconjugated increased. For all tumour types at 6.4 mg/kg,  
424 includes blood bilirubin increased, hyperbilirubinaemia and bilirubin conjugated increased.  
425 <sup>t</sup> For all tumour types at 5.4 mg/kg, cases of infusion-related reactions include infusion-related reaction  
426 (n = 16) and hypersensitivity (n = 2). For all tumour types at 6.4 mg/kg, cases of infusion-related  
427 reactions include infusion-related reaction (n = 6) and hypersensitivity (n = 1). All cases of infusion-  
428 related reactions were Grade 1 and Grade 2.  
429

### 430 Description of selected adverse reactions

#### 431 *Interstitial lung disease/pneumonitis*

432 In patients treated with Enhertu 5.4 mg/kg in clinical studies across multiple tumour types (n = 1449),  
433 ILD occurred in 12.5% of patients. Most ILD cases were Grade 1 (3.2%) and Grade 2 (7.4%). Grade 3  
434 cases occurred in 0.8% and no Grade 4 cases occurred. Grade 5 (fatal) events occurred in 1.0% of  
435 patients. Median time to first onset was 5.5 months (range: 26 days to 31.5 months) (see sections 4.2  
436 and 4.4).  
437  
438

439 In patients treated with Enhertu 6.4 mg/kg in clinical studies across multiple tumour types (n = 669),  
440 ILD occurred in 17.9% of patients. Most ILD cases were Grade 1 (4.9%) and Grade 2 (9.4%). Grade 3  
441 cases occurred in 1.3% and Grade 4 cases occurred in 0.1% of patients. Grade 5 (fatal) events occurred  
442 in 2.1% of patients. One patient had pre-existing ILD that worsened post treatment leading to Grade 5  
443 (fatal) ILD. Median time to first onset was 4.2 months (range: -0.5 to 21.0) (see sections 4.2 and 4.4).  
444

#### 445 *Neutropenia*

446 In patients treated with Enhertu 5.4 mg/kg in clinical studies (n = 1449) across multiple tumour types,  
447 neutropenia was reported in 35.2% of patients and 17.0% had Grade 3 or 4 events. Median time of onset  
448 was 43 days (range: 1 day to 31.9 months), and median duration of the first event was 22 days (range:  
449 1 day to 17.1 months). Febrile neutropenia was reported in 0.9% of patients and 0.1% were Grade 5 (see  
450 section 4.2).  
451

452 In patients treated with Enhertu 6.4 mg/kg in clinical studies across multiple tumour types (n = 669),  
453 neutropenia was reported in 43.5% of patients and 28.7% had Grade 3 or 4 events. Median time of onset  
454 was 16 days (range: 1 day to 24.8 months), and median duration of the first event was 9 days (range:  
455 2 days to 17.2 months). Febrile neutropenia was reported in 3.0% of patients and 0.1% were Grade 5  
456 (see section 4.2).  
457

#### 458 *Left ventricular ejection fraction decrease*

459 In patients treated with Enhertu 5.4 mg/kg in clinical studies across multiple tumour types (n = 1449),  
460 LVEF decrease was reported in 57 patients (3.9%), of which 10 (0.7%) were Grade 1, 40 (2.8%) were  
461 Grade 2 and 7 (0.5%) were Grade 3. The observed frequency of LVEF decreased based on laboratory  
462 parameters (echocardiogram or MUGA scanning) was 202/1341 (15.1%) for Grade 2 and  
463 12/1341 (0.9%) for Grade 3. Treatment with Enhertu has not been studied in patients with LVEF less  
464 than 50% prior to initiation of treatment (see section 4.2).  
465

466 In patients treated with Enhertu 6.4 mg/kg in clinical studies across multiple tumour types (n = 669),  
467 LVEF decrease was reported in 12 patients (1.8%), of which 1 (0.1%) was Grade 1, 8 (1.2%) were  
468 Grade 2, and 3 (0.4%) were Grade 3. The observed frequency of LVEF decreased based on laboratory  
469 parameters (echocardiogram or MUGA scanning) was 89/597 (14.9%) for Grade 2, and 8/597 (1.3%)  
470 for Grade 3.

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### Infusion-related reactions

In patients treated with Enhertu 5.4 mg/kg in clinical studies (n = 1449) across multiple tumour types, infusion-related reactions were reported in 18 patients (1.2%), all of which were Grade 1 or Grade 2 severity. No Grade 3 events were reported. Three events (0.2%) of infusion-related reactions led to dose interruptions, and no events led to discontinuation.

In patients treated with Enhertu 6.4 mg/kg in clinical studies (n = 669) across multiple tumour types, infusion-related reactions were reported in 7 patients (1.0%), all of which were Grade 1 or Grade 2 severity. No Grade 3 events were reported. One event (0.1%) of infusion-related reaction led to dose interruption, and no events led to discontinuation.

### Immunogenicity

As with all therapeutic proteins, there is a potential for immunogenicity. Across all doses evaluated in clinical studies, 2.1% (47/2213) of evaluable patients developed antibodies against trastuzumab deruxtecan following treatment with Enhertu. The incidence of treatment-emergent neutralising antibodies against trastuzumab deruxtecan was 0.1% (2/2213). There was no association between development of antibodies and allergic-type reactions.

### Paediatric population

Safety has not been established in this population.

### Elderly

In patients treated with Enhertu 5.4 mg/kg in clinical studies across multiple tumour types (n = 1449), 24.2% were 65 years or older and 4.3% were 75 years or older. There was a higher incidence of Grade 3-4 adverse reactions observed in patients aged 65 years or older (50.0%) as compared to patients younger than 65 years old (42.7%), leading to more discontinuations due to adverse reactions.

Of the 669 patients across multiple tumour types in clinical studies treated with Enhertu 6.4 mg/kg, 39.2% were 65 years or older and 7.6% were 75 years or older. The incidence of Grade 3-4 adverse reactions observed in patients 65 years or older was 59.9% and 62.9% in younger patients. There was a higher incidence of Grade 3-4 adverse reactions observed in patients 75 years of age or older (64.7%) compared to patients less than 75 years of age (61.5%). In patients 75 years or older, there was a higher incidence of serious adverse reactions (37.3%) and fatal events (7.8%) compared to patients less than 75 years (20.7% and 2.3%). Data are limited to establish the safety in patients 75 years or older.

### Ethnic differences

In clinical studies, no relevant differences in exposure or efficacy were observed between patients of different ethnic groups. Asian patients receiving Enhertu 6.4 mg/kg had a higher incidence ( $\geq 10\%$  difference) of neutropenia (58.1% vs. 18.6%), anaemia (51.1% vs. 32.4%), leukopenia (42.7% vs. 6.9%), thrombocytopenia (40.5% vs. 15.4%) and lymphopenia (17.6% vs. 7.3%) compared to non-Asian patients. In Asian patients, 4.3% experienced a bleeding event within 14 days after onset of thrombocytopenia compared to 1.6% of non-Asian patients.

## **4.9 Overdose**

The maximum tolerated dose of trastuzumab deruxtecan has not been determined. In clinical studies, single doses higher than 8.0 mg/kg have not been tested. In case of overdose, patients must be closely monitored for signs or symptoms of adverse reactions and appropriate symptomatic treatment initiated.

## 527 5. PHARMACOLOGICAL PROPERTIES

528

### 529 5.1 Pharmacodynamic properties

530

531 Pharmacotherapeutic group: Antineoplastic agents, HER2 (Human Epidermal Growth Factor  
532 Receptor 2) inhibitors, ATC code: L01FD04

533

#### 534 Mechanism of action

535

536 Enhertu, trastuzumab deruxtecan, is a HER2-targeted antibody-drug conjugate. The antibody is a  
537 humanised anti-HER2 IgG1 attached to deruxtecan, a topoisomerase I inhibitor (DXd) bound by a  
538 tetrapeptide-based cleavable linker. The antibody-drug conjugate is stable in plasma. The function of  
539 the antibody portion is to bind to HER2 expressed on the surface of certain tumour cells. After binding,  
540 the trastuzumab deruxtecan complex then undergoes internalisation and intracellular linker cleavage by  
541 lysosomal enzymes that are upregulated in cancer cells. Upon release, the membrane-permeable DXd  
542 causes DNA damage and apoptotic cell death. DXd, an exatecan derivative, is approximately 10 times  
543 more potent than SN-38, the active metabolite of irinotecan.

544

545 *In vitro* studies indicate that the antibody portion of trastuzumab deruxtecan, which has the same amino  
546 acid sequence as trastuzumab, also binds to FcγRIIIa and complement C1q. The antibody mediates  
547 antibody-dependent cellular cytotoxicity (ADCC) in human breast cancer cells that overexpress HER2.  
548 In addition, the antibody inhibits signalling through the phosphatidylinositol 3-kinase (PI3-K) pathway  
549 in human breast cancer cells that overexpress HER2.

550

#### 551 Clinical efficacy

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##### 553 *HER2-positive breast cancer*

554

##### 555 DESTINY-Breast03 (NCT03529110)

556 The efficacy and safety of Enhertu were studied in DESTINY-Breast03, a multicentre, open-label,  
557 active-controlled, randomised, two-arm phase 3 study that enrolled patients with HER2-positive,  
558 unresectable or metastatic breast cancer who received prior trastuzumab and taxane therapy for  
559 metastatic disease or developed disease recurrence during or within 6 months of completing adjuvant  
560 therapy.

561

562 Archival breast tumour samples were required to show HER2 positivity defined as HER2 IHC 3+ or  
563 ISH-positive. The study excluded patients with a history of ILD/pneumonitis requiring treatment with  
564 steroids or ILD/pneumonitis at screening, patients with untreated and symptomatic brain metastases,  
565 patients with a history of clinically significant cardiac disease and patients with prior treatment with an  
566 anti-HER2 antibody-drug conjugate in the metastatic setting. Patients were randomised 1:1 to receive  
567 either Enhertu 5.4 mg/kg (N = 261) or trastuzumab emtansine 3.6 mg/kg (N = 263) administered by  
568 intravenous infusion once every three weeks. Randomisation was stratified by hormone receptor status,  
569 prior treatment with pertuzumab, and history of visceral disease. Treatment was administered until  
570 disease progression, death, withdrawal of consent, or unacceptable toxicity.

571

572 The primary efficacy outcome measure was progression-free survival (PFS) as evaluated by blinded  
573 independent central review (BICR) according to Response Evaluation Criteria in Solid Tumours  
574 (RECIST v1.1). Overall survival (OS) was a key secondary efficacy outcome measure. PFS based on  
575 investigator assessment, confirmed objective response rate (ORR), and duration of response (DOR)  
576 were secondary endpoints.

577

578 Patient demographics and baseline disease characteristics were balanced between treatment arms. Of  
579 the 524 patients randomised, the baseline demographic and disease characteristics were: median age  
580 54 years (range: 20 to 83); 65 years or older (20.2%); female (99.6%); Asian (59.9%), White (27.3%),  
581 Black or African American (3.6%); Eastern Cooperative Oncology Group (ECOG) performance  
582 status 0 (62.8%) or 1 (36.8%); hormone receptor status (positive: 51.9%); presence of visceral disease  
583 (73.3%); presence of brain metastases at baseline (15.6%); and 48.3% of patients received one line of

584 prior systemic therapy in the metastatic setting. The percentage of patients who had not received prior  
 585 treatment for metastatic disease was 9.5%. The percentage of patients who were previously treated with  
 586 pertuzumab was 61.1%.

587  
 588 At the prespecified interim analysis for PFS based on 245 events (73% of total events planned for final  
 589 analysis), the study showed a statistically significant improvement in PFS per BICR in patients  
 590 randomised to Enhertu compared to trastuzumab emtansine. PFS by BICR data from the primary  
 591 analysis (data cutoff 21 May 2021) and updated OS, ORR and DOR results from data cutoff 25 July  
 592 2022 are presented in Table 4.

593  
 594 **Table 4: Efficacy results in DESTINY-Breast03**

<b>Efficacy parameter</b>	<b>Enhertu N = 261</b>	<b>trastuzumab emtansine N = 263</b>
<b>Progression-free survival (PFS) per BICR<sup>a</sup></b>		
Number of events (%)	87 (33.3)	158 (60.1)
Median, months (95% CI)	NR (18.5, NE)	6.8 (5.6, 8.2)
Hazard ratio (95% CI)	0.28 (0.22, 0.37)	
p-value	p < 0.000001 <sup>†</sup>	
<b>Overall survival (OS)<sup>b</sup></b>		
Number of events (%)	72 (27.6)	97 (36.9)
Median, months (95% CI)	NR (40.5, NE)	NR (34.0, NE)
Hazard ratio (95% CI)	0.64 (0.47, 0.87)	
p-value <sup>c</sup>	p = 0.0037	
<b>PFS per BICR (updated)<sup>b</sup></b>		
Number of events (%)	117 (44.8)	171 (65.0)
Median, months (95% CI)	28.8 (22.4, 37.9)	6.8 (5.6, 8.2)
Hazard ratio (95% CI)	0.33 (0.26, 0.43)	
<b>Confirmed objective response rate (ORR) per BICR<sup>b</sup></b>		
n (%)	205 (78.5)	92 (35.0)
95% CI	(73.1, 83.4)	(29.2, 41.1)
Complete response n (%)	55 (21.1)	25 (9.5)
Partial response n (%)	150 (57.5)	67 (25.5)
<b>Duration of response per BICR<sup>b</sup></b>		
Median, months (95% CI)	36.6 (22.4, NE)	23.8 (12.6, 34.7)

595 CI = confidence interval; NE = not estimable; NR = not reached

596 <sup>†</sup>presented as 6 decimal places

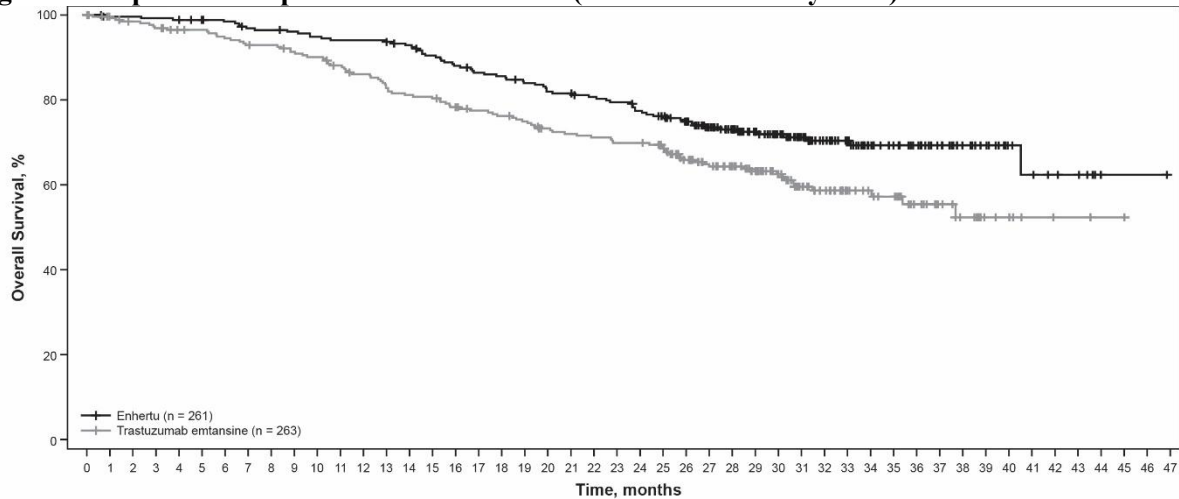
597 <sup>a</sup> Data cutoff 21 May 2021

598 <sup>b</sup> Data cutoff 25 July 2022 for a pre-planned OS interim analysis

599 <sup>c</sup> The p-value is based on a stratified log-rank test; crossed the efficacy boundary of 0.013.

600

601 **Figure 1: Kaplan-Meier plot of overall survival (Data cutoff 25 July 2022)**

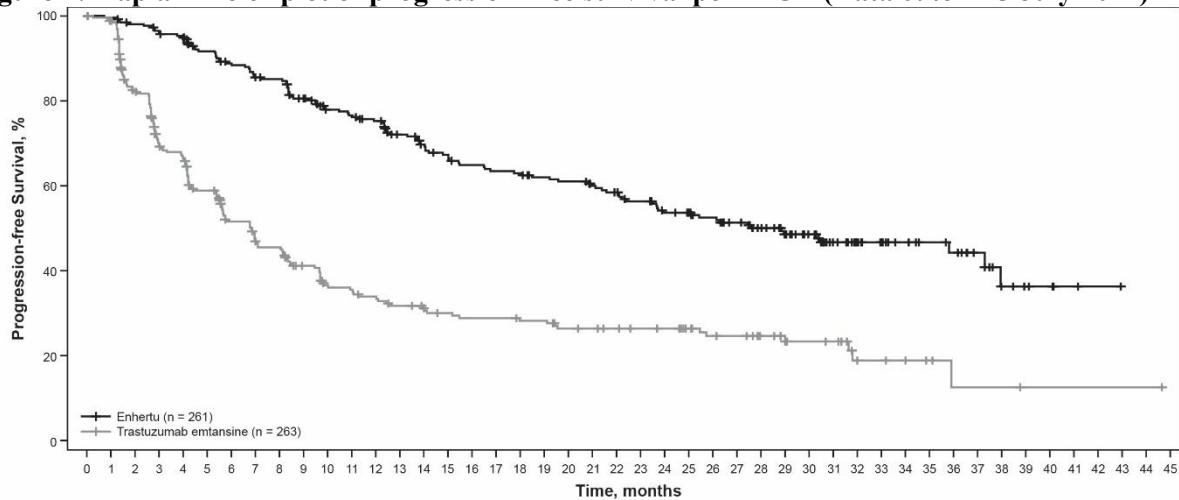


Number at Risk:

Enhertu (261)	261	256	256	255	254	251	249	244	243	241	238	236	236	236	231	224	218	213	211	206	201	200	196	183	187	182	173	156	142	124	109	91	73	64	51	44	38	30	22	18	11	9	7	6	1	1	1	0
Trastuzumab emtansine (263)	263	257	252	248	243	242	237	233	232	227	224	217	211	203	199	197	191	186	183	179	172	169	167	164	164	158	140	129	117	106	90	70	59	45	41	38	27	20	15	8	7	4	3	3	1	1	1	0

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**Figure 2: Kaplan-Meier plot of progression-free survival per BICR (Data cutoff 25 July 2022)**



Number at Risk:

Enhertu (261)	261	256	250	244	240	225	216	207	205	191	176	173	167	154	146	140	134	131	130	125	123	117	113	107	99	96	90	82	73	64	55	41	32	28	23	20	18	13	7	5	4	2	1	0			
Trastuzumab emtansine (263)	263	253	201	164	156	134	111	99	96	81	69	67	63	58	54	51	49	49	47	47	42	41	39	37	36	32	28	27	22	19	15	14	8	7	6	4	2	2	2	2	1	1	1	1	1	1	0

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Similar PFS results were observed across prespecified subgroups including prior pertuzumab therapy, hormone receptor status, and presence of visceral disease.

610 *DESTINY-Breast02 (NCT03523585)*

611 The efficacy and safety of Enhertu were evaluated in study DESTINY-Breast02, a Phase 3, randomised,  
612 multicentre, open-label, active-controlled study that enrolled patients with unresectable or metastatic  
613 HER2-positive breast cancer, who were resistant or refractory to prior T-DM1 therapy. Archival breast  
614 tumour samples were required to show HER2 positivity defined as HER2 IHC 3+ or ISH-positive. The  
615 study excluded patients with a history of ILD/pneumonitis requiring treatment with steroids or  
616 ILD/pneumonitis at screening, patients with untreated and symptomatic brain metastases and patients  
617 with a history of clinically significant cardiac disease. Patients were randomised 2:1 to receive either  
618 Enhertu 5.4 mg/kg (n = 406) by intravenous infusion every three weeks, or treatment of physician's  
619 choice (n = 202, trastuzumab plus capecitabine or lapatinib plus capecitabine). Randomisation was  
620 stratified by hormone receptor status, prior treatment with pertuzumab and history of visceral disease.  
621 Treatment was administered until disease progression, death, withdrawal of consent or unacceptable  
622 toxicity.

623

624 The primary efficacy outcome measure was progression-free survival (PFS) as assessed by blinded  
 625 independent central review (BICR) based on RECIST v1.1. Overall survival (OS) was a key secondary  
 626 efficacy outcome measure. PFS based on investigator assessment, confirmed objective response rate  
 627 (ORR) and duration of response (DOR) were secondary objectives.  
 628

629 Demographic and baseline disease characteristics were similar between treatment arms. Of the 608  
 630 patients randomised, the median age was 54 years (range 22 to 88); female (99.2%); White (63.2%),  
 631 Asian (29.3%), Black or African American (2.8%); Eastern Cooperative Oncology Group (ECOG)  
 632 performance status 0 (57.4%) or 1 (42.4%); hormone receptor status (positive: 58.6%); presence of  
 633 visceral disease (78.3%); presence of brain metastases at baseline (18.1%) and 4.9% of patients received  
 634 one line of prior systemic therapy in the metastatic setting.  
 635

636 Efficacy results are summarised in Table 5 and Figures 3 and 4.  
 637  
 638

**Table 5: Efficacy results in DESTINY-Breast02**

<b>Efficacy parameter</b>	<b>Enhertu N = 406</b>	<b>Treatment of physician's choice N = 202</b>
<b>PFS per BICR</b>		
Number of events (%)	200 (49.3)	125 (61.9)
Median, months (95% CI)	17.8 (14.3, 20.8)	6.9 (5.5, 8.4)
Hazard ratio (95% CI)	0.36 (0.28, 0.45)	
p-value	p < 0.000001 <sup>†</sup>	
<b>Overall survival (OS)</b>		
Number of events (%)	143 (35.2)	86 (42.6)
Median, months (95% CI)	39.2 (32.7, NE)	26.5 (21.0, NE)
Hazard ratio (95% CI)	0.66 (0.50, 0.86)	
p-value <sup>a</sup>	p = 0.0021	
<b>PFS per investigator assessment</b>		
Number of events (%)	206 (50.7)	152 (75.2)
Median, months (95% CI)	16.7 (14.3, 19.6)	5.5 (4.4, 7.0)
Hazard ratio (95% CI)	0.28 (0.23, 0.35)	
<b>Confirmed objective response rate (ORR) per BICR</b>		
n (%)	283 (69.7)	59 (29.2)
95% CI	(65.0, 74.1)	(23.0, 36.0)
Complete response n (%)	57 (14.0)	10 (5.0)
Partial response n (%)	226 (55.7)	49 (24.3)
<b>Duration of response per BICR</b>		
Median, months (95% CI)	19.6 (15.9, NE)	8.3 (5.8, 9.5)

639 CI = confidence interval; NE = not estimable

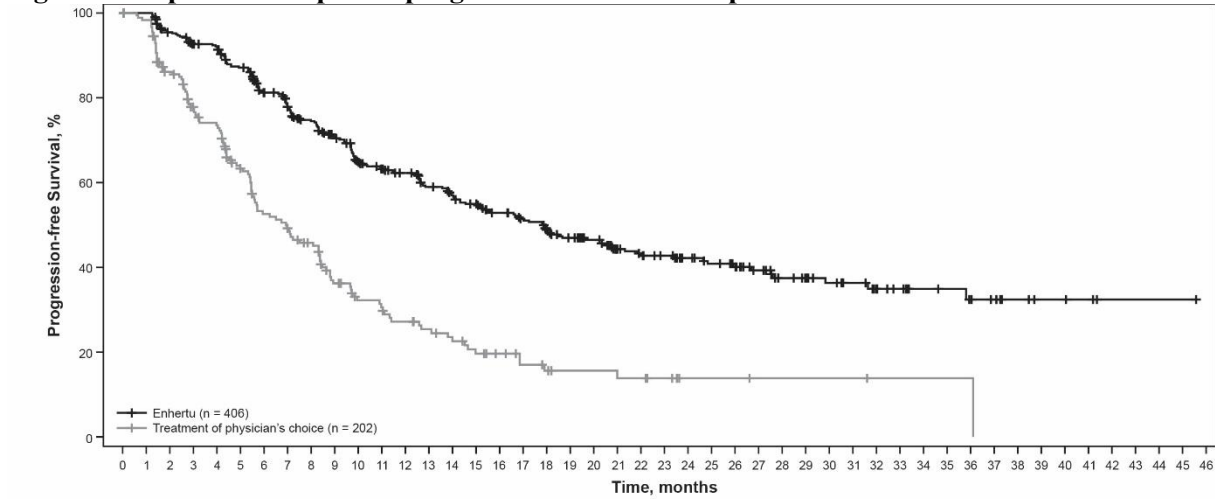
640 <sup>†</sup> presented as 6 decimal places

641 <sup>a</sup> The p-value is based on a stratified log-rank test; crossed the efficacy boundary of 0.004.

642



643 **Figure 3: Kaplan-Meier plot of progression-free survival per BICR**

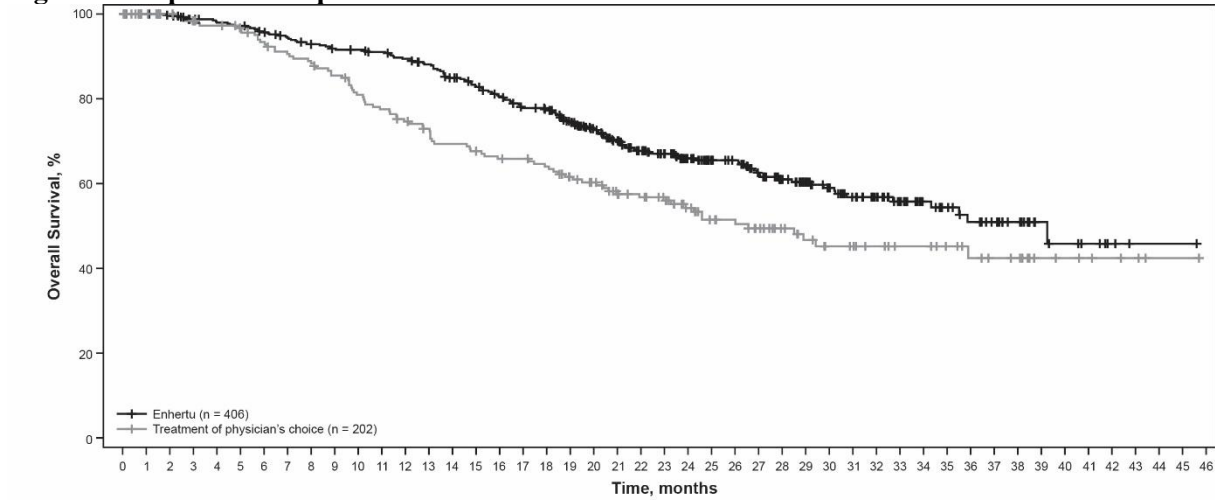


Number at Risk:

Enhertu (406)	406	400	374	359	355	330	296	278	260	239	213	203	194	179	170	161	149	141	132	119	109	88	83	76	65	60	55	47	38	35	31	27	23	19	15	14	12	10	6	4	4	3	1	1	1	1	0			
Treatment of physician's choice (202)	202	180	148	126	118	95	78	72	64	48	39	37	32	28	24	20	17	13	11	9	9	8	8	6	6	3	3	3	2	2	2	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0

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**Figure 4: Kaplan-Meier plot of overall survival**



Number at Risk:

Enhertu (406)	406	404	400	390	385	382	374	366	357	352	350	346	339	331	317	306	295	282	277	257	234	215	198	183	160	144	139	122	104	93	82	72	63	51	40	34	29	25	19	10	8	6	3	1	1	1	0	
Treatment of physician's choice (202)	202	192	187	182	178	173	167	161	157	151	142	136	130	124	118	114	111	110	108	95	89	79	76	72	61	53	50	46	38	33	29	28	25	22	22	18	15	13	12	7	6	5	4	3	1	1	1	0

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DESTINY-Breast01 (NCT03248492)

650 The efficacy and safety of Enhertu were studied in DESTINY-Breast01, a multicentre, open-label,  
651 single-arm Phase 2 study that enrolled patients with HER2-positive, unresectable and/or metastatic  
652 breast cancer who had received two or more prior anti-HER2-based regimens, including trastuzumab  
653 emtansine (100%), trastuzumab (100%) and pertuzumab (65.8%). Archival breast tumour samples were  
654 required to show HER2 positivity defined as HER2 IHC 3+ or ISH-positive. The study excluded patients  
655 with a history of treated ILD or ILD at screening, patients with untreated or symptomatic brain  
656 metastases, and patients with a history of clinically significant cardiac disease. Patients enrolled had at  
657 least 1 measurable lesion per RECIST v1.1. Enhertu was administered by intravenous infusion at  
658 5.4 mg/kg once every three weeks until disease progression, death, withdrawal of consent, or  
659 unacceptable toxicity. The primary efficacy outcome measure was confirmed objective response rate  
660 (ORR) according to RECIST v1.1 in the intent-to-treat (ITT) population as evaluated by independent  
661 central review (ICR). The secondary efficacy outcome measure was duration of response (DOR).

662  
663 Of the 184 patients enrolled in DESTINY-Breast01, baseline demographic and disease characteristics  
664 were: median age 55 years (range: 28 to 96); 65 years or older (23.9%); female (100%); White (54.9%),  
665 Asian (38.0%), Black or African American (2.2%); Eastern Cooperative Oncology Group (ECOG)  
666 performance status 0 (55.4%) or 1 (44.0%); hormone receptor status (positive: 52.7%); presence of

667 visceral disease (91.8%); previously treated and stable brain metastases (13.0%); median number of  
 668 prior therapies in the metastatic setting: 5 (range: 2 to 17); sum of diameters of target lesions (< 5 cm:  
 669 42.4%, ≥ 5 cm: 50.0%).

670  
 671 An earlier analysis (median duration of follow-up 11.1 months [range: 0.7 to 19.9 months]) showed a  
 672 confirmed objective response rate of 60.9% (95% CI: 53.4, 68.0) with 6.0% being complete responders  
 673 and 54.9% being partial responders; 36.4% had stable disease, 1.6% had progressive disease and 1.1%  
 674 were not evaluable. Median duration of response at that time was 14.8 months (95% CI: 13.8, 16.9) with  
 675 81.3% of responders having a response of ≥ 6 months (95% CI: 71.9, 87.8). Efficacy results from an  
 676 updated data cutoff with median duration of follow-up of 20.5 months (range: 0.7 to 31.4 months) are  
 677 shown in Table 6.

678  
 679 **Table 6: Efficacy results in DESTINY-Breast01 (intent-to-treat analysis set)**

	<b>DESTINY-Breast01 N = 184</b>
<b>Confirmed objective response rate (95% CI)*†</b>	61.4% (54.0, 68.5)
Complete response (CR)	6.5%
Partial response (PR)	54.9%
<b>Duration of response‡</b>	
Median, months (95% CI)	20.8 (15.0, NR)
% with duration of response ≥ 6 months (95% CI)§	81.5% (72.2, 88.0)

680 ORR 95% CI calculated using Clopper-Pearson method

681 CI = confidence interval

682 95% CIs calculated using Brookmeyer-Crowley method

683 \*Confirmed responses (by blinded independent central review) were defined as a recorded response of  
 684 either CR/PR, confirmed by repeat imaging not less than 4 weeks after the visit when the response was  
 685 first observed.

686 †Of the 184 patients, 35.9% had stable disease, 1.6% had progressive disease and 1.1% were not  
 687 evaluable.

688 ‡Includes 73 patients with censored data

689 §Based on Kaplan-Meier estimation

690 NR = not reached

691  
 692 Consistent anti-tumour activity was observed across prespecified subgroups based on prior pertuzumab  
 693 therapy and hormone receptor status.

694  
 695 *HER2-low breast cancer*

696  
 697 *DESTINY-Breast04 (NCT03734029)*

698 The efficacy and safety of Enhertu were studied in DESTINY-Breast04, a phase 3, randomised,  
 699 multicentre, open-label study that enrolled 557 adult patients with unresectable or metastatic HER2-low  
 700 breast cancer. The study included 2 cohorts: 494 hormone receptor positive (HR+) patients and  
 701 63 hormone receptor negative (HR-) patients. HER2-low expression was defined as IHC 1+ (defined as  
 702 faint, partial staining of the membrane in greater than 10% of the cancer cells) or IHC 2+/ISH-, as  
 703 determined by the PATHWAY/VENTANA anti-HER2/neu (4B5) evaluated at a central laboratory.  
 704 Patients must have received chemotherapy in the metastatic setting or have developed disease recurrence  
 705 during or within 6 months of completing adjuvant chemotherapy. According to the inclusion criteria,  
 706 patients who were HR+ must have received at least one endocrine therapy and be ineligible for further  
 707 endocrine therapy at the time of randomisation. Patients were randomised 2:1 to receive either Enhertu  
 708 5.4 mg/kg (N = 373) by intravenous infusion every three weeks or physician's choice of chemotherapy  
 709 (N = 184, eribulin 51.1%, capecitabine 20.1%, gemcitabine 10.3%, nab paclitaxel 10.3%, or paclitaxel  
 710 8.2%). Randomisation was stratified by HER2 IHC status of tumour samples (IHC 1+ or IHC 2+/ISH-  
 711 ), number of prior lines of chemotherapy in the metastatic setting (1 or 2) and HR status/prior CDK4/6i

712 treatment (HR+ with prior CDK4/6 inhibitor treatment, HR+ without prior CDK4/6 inhibitor treatment,  
 713 or HR-). Treatment was administered until disease progression, death, withdrawal of consent, or  
 714 unacceptable toxicity. The study excluded patients with a history of ILD/pneumonitis requiring  
 715 treatment with steroids or ILD/pneumonitis at screening and clinically significant cardiac disease.  
 716 Patients were also excluded for untreated or symptomatic brain metastases or ECOG performance status  
 717 > 1.

718  
 719 The primary efficacy endpoint was progression-free survival (PFS) in patients with HR+ breast cancer  
 720 assessed by BICR based on RECIST v1.1. Key secondary efficacy endpoints were PFS assessed by  
 721 BICR based on RECIST v1.1 in the overall population (all randomised HR+ and HR- patients), overall  
 722 survival (OS) in HR+ patients and OS in the overall population. ORR, DOR and patient-reported  
 723 outcomes (PROs) were secondary endpoints.

724  
 725 Demographics and baseline tumour characteristics were similar between treatment arms. Of the  
 726 557 patients randomised, the median age was 57 years (range: 28 to 81); 23.5% were age 65 or older;  
 727 99.6% were female and 0.4% were male; 47.9% were White, 40.0% were Asian and 1.8% were Black  
 728 or African American. Patients had an ECOG performance status of 0 (54.8%) or 1 (45.2%) at baseline;  
 729 57.6% were IHC 1+, 42.4% were IHC 2+/ISH-; 88.7% were HR+ and 11.3% HR-; 69.8% had liver  
 730 metastases, 32.9% had lung metastases, and 5.7% had brain metastases. The percentage of patients who  
 731 had prior anthracycline use in the (neo)adjuvant setting was 46.3% and 19.4% in the locally advanced  
 732 and/or metastatic setting. In the metastatic setting, patients had a median of 3 prior lines of systemic  
 733 therapy (range: 1 to 9) with 57.6% having 1 and 40.9% having 2 prior chemotherapy regimens; 3.9%  
 734 were early progressors (progression in the neo/adjuvant setting). In HR+ patients, the median number  
 735 of prior lines of endocrine therapy was 2 (range: 0 to 9) and 70% had prior CDK4/6 inhibitor treatment.

736  
 737 Efficacy results are summarised in Table 7 and Figures 5 and 6.

738  
 739 **Table 7: Efficacy results in DESTINY-Breast04**

Efficacy parameter	HR+ cohort		Overall population (HR+ and HR- cohort)	
	Enhertu (N = 331)	Chemotherapy (N = 163)	Enhertu (N = 373)	Chemotherapy (N = 184)
<b>Overall survival</b>				
Number of events (%)	126 (38.1)	73 (44.8)	149 (39.9)	90 (48.9)
Median, months (95% CI)	23.9 (20.8, 24.8)	17.5 (15.2, 22.4)	23.4 (20.0, 24.8)	16.8 (14.5, 20.0)
Hazard ratio (95% CI)	0.64 (0.48, 0.86)		0.64 (0.49, 0.84)	
p-value	0.0028		0.001	
<b>Progression-free survival per BICR</b>				
Number of events (%)	211 (63.7)	110 (67.5)	243 (65.1)	127 (69.0)
Median, months (95% CI)	10.1 (9.5, 11.5)	5.4 (4.4, 7.1)	9.9 (9.0, 11.3)	5.1 (4.2, 6.8)
Hazard ratio (95% CI)	0.51 (0.40, 0.64)		0.50 (0.40, 0.63)	
p-value	< 0.0001		< 0.0001	
<b>Confirmed objective response rate per BICR*</b>				
n (%)	175 (52.6)	27 (16.3)	195 (52.3)	30 (16.3)
95% CI	47.0, 58.0	11.0, 22.8	47.1, 57.4	11.3, 22.5

Efficacy parameter	HR+ cohort		Overall population (HR+ and HR- cohort)	
	Enhertu (N = 331)	Chemotherapy (N = 163)	Enhertu (N = 373)	Chemotherapy (N = 184)
Complete Response (%)	12 (3.6)	1 (0.6)	13 (3.5)	2 (1.1)
Partial Response (%)	164 (49.2)	26 (15.7)	183 (49.1)	28 (15.2)
<b>Duration of response per BICR*</b>				
Median, months (95% CI)	10.7 (8.5, 13.7)	6.8 (6.5, 9.9)	10.7 (8.5, 13.2)	6.8 (6.0, 9.9)

740 CI = confidence interval

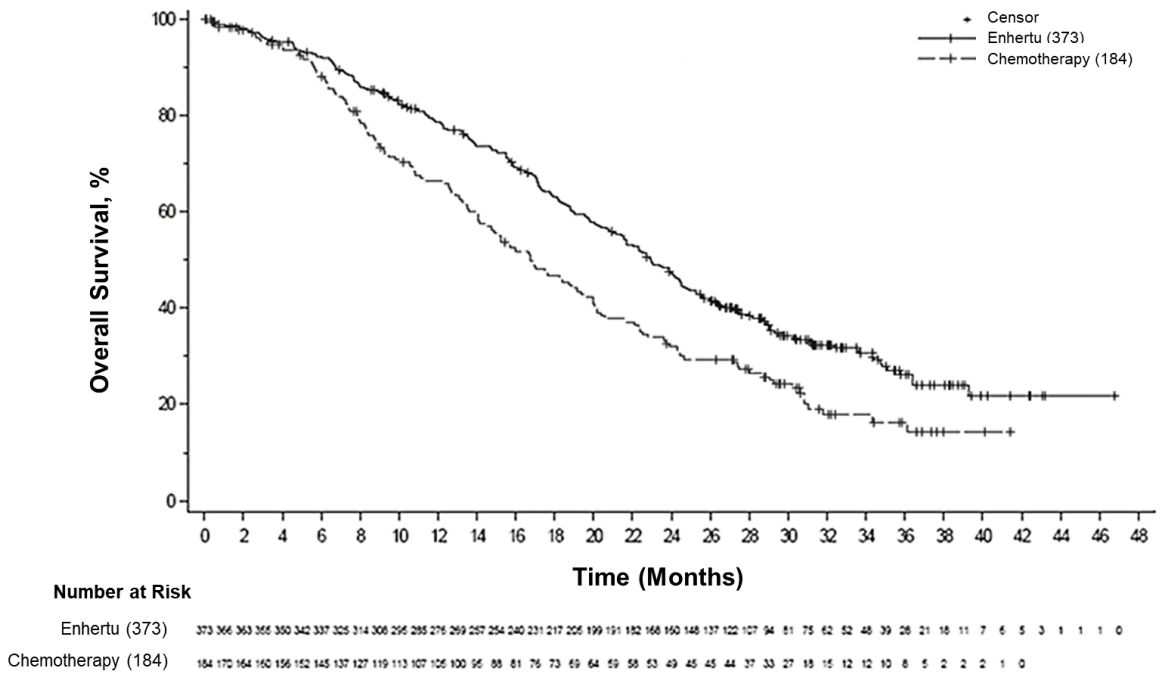
741 \*Based on data from electronic case report form for the HR+ cohort: N = 333 for Enhertu arm and  
742 N = 166 chemotherapy arm.

743  
744 Consistent OS and PFS benefit were observed across prespecified subgroups, including HR status, prior  
745 CDK4/6i treatment, number of prior chemotherapies and IHC 1+ and IHC 2+/ISH- status. In the HR-  
746 subgroup, median OS was 18.2 months (95% CI: 13.6, not estimable) in patients randomised to Enhertu  
747 compared to 8.3 months (95% CI: 5.6, 20.6) in patients randomised to chemotherapy with a hazard ratio  
748 of 0.48 (95% CI: 0.24, 0.95). Median PFS was 8.5 months (95% CI: 4.3, 11.7) in patients randomised  
749 to Enhertu and 2.9 months (95% CI: 1.4, 5.1) in patients randomised to chemotherapy with a hazard  
750 ratio of 0.46 (95% CI: 0.24, 0.89).

751  
752 At an updated descriptive analysis with a median follow-up of 32 months, OS improvements were  
753 consistent with the primary analysis. The HR in the overall population was 0.69 (95% CI: 0.55, 0.86)  
754 with a median OS of 22.9 months (95% CI: 21.2, 24.5) in the Enhertu arm versus 16.8 months (95% CI:  
755 14.1, 19.5) in the chemotherapy arm. The Kaplan-Meier curve for the updated OS analysis is shown in  
756 Figure 5.

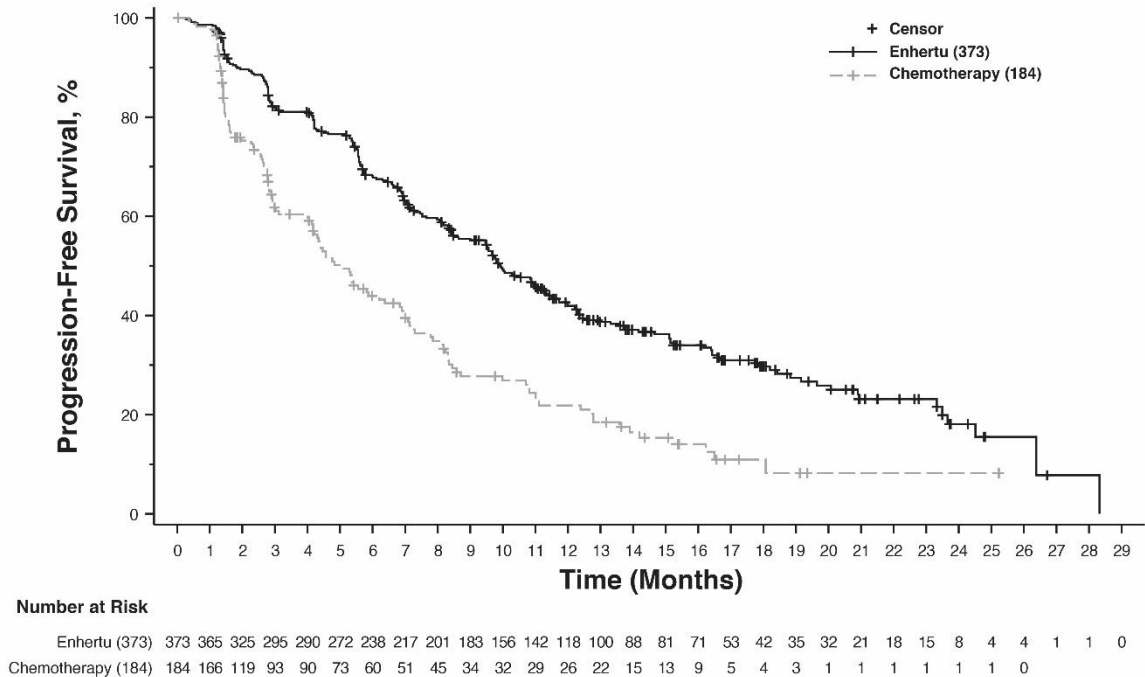
757

758 **Figure 5: Kaplan-Meier plot of overall survival (overall population) (updated analysis)**



759  
760  
761

**Figure 6: Kaplan-Meier plot of progression-free survival per BICR (overall population)**



762  
763  
764  
765

NSCLC

766 DESTINY-Lung02 (NCT04644237)

767 The efficacy and safety of Enhertu were studied in DESTINY-Lung02, a phase 2, randomised study  
768 evaluating two dose levels. The treatment dosage assignment was blinded to patients and investigators.  
769 The study included adult patients with metastatic HER2-mutant NSCLC who had received at least one  
770 regimen containing platinum-based chemotherapy. Identification of an activating HER2 (ERBB2)  
771 mutation was prospectively determined in tumour tissue by local laboratories using a validated test such  
772 as next generation sequencing, polymerase chain reaction or mass spectrometry. Patients were

773 randomised 2:1 to receive Enhertu 5.4 mg/kg or 6.4 mg/kg every 3 weeks, respectively. Randomisation  
 774 was stratified by prior anti-programmed cell death receptor-1 (PD-1) and/or anti-programmed cell death  
 775 ligand 1 (PD-L1) treatment (yes versus no). Treatment was administered until disease progression,  
 776 death, withdrawal of consent, or unacceptable toxicity. The study excluded patients with a history of  
 777 ILD/pneumonitis requiring treatment with steroids or ILD/pneumonitis at screening and clinically  
 778 significant cardiac disease. Patients were also excluded for untreated and symptomatic brain metastases  
 779 or ECOG performance status >1.

780  
 781 The primary efficacy outcome measure was confirmed ORR as assessed by BICR using RECIST v1.1.  
 782 The secondary efficacy outcome measure was DOR.

783  
 784 Demographic and baseline disease characteristics from the 102 patients enrolled in the 5.4 mg/kg arm  
 785 were: median age 59.4 years (range 31 to 84); female (63.7%); Asian (63.7%), White (22.5%), or Other  
 786 (13.7%); ECOG performance status 0 (28.4%) or 1 (71.6%); 97.1% had a mutation in the ERBB2 kinase  
 787 domain, 2.9% in the extracellular domain; 96.1% had a HER2 mutation in exon 19 or exon 20; 34.3%  
 788 had stable brain metastases; 46.1% were former smokers, none were current smokers; 21.6% had a prior  
 789 lung resection. In the metastatic setting, 32.4% had greater than 2 prior systemic therapies, 100%  
 790 received platinum-based therapy, 73.5% received anti-PD-1/PD-L1 therapy, and 50.0% had prior  
 791 treatment with platinum therapy and anti-PD-1/PD-L1 therapy in combination.

792  
 793 Efficacy results are summarised in Table 8. The median duration of follow-up was 11.5 months (data  
 794 cutoff: 23 December 2022).

795  
 796 **Table 8: Efficacy results in DESTINY-Lung02**

Efficacy parameter	DESTINY-Lung02 5.4 mg/kg N = 102
<b>Confirmed objective response rate (ORR) per BICR</b>	
n (%)	50 (49.0)
(95% CI)*	(39.0, 59.1)
Complete response (CR) n (%)	1 (1.0)
Partial response (PR) n (%)	49 (48.0)
<b>Duration of response</b>	
Median, months (95% CI) †	16.8 (6.4, NE)

797 \*95% CI calculated using Clopper-Pearson method

798 CI = confidence interval, NE = not estimable

799 †95% CI calculated using Brookmeyer-Crowley method

800  
 801 *Gastric cancer*

802  
 803 DESTINY-Gastric02 (NCT04014075)

804 The efficacy and safety of Enhertu were studied in DESTINY-Gastric02, a Phase 2, multicentre, open-  
 805 label, single-arm study conducted at sites in Europe and the United States. The study enrolled patients  
 806 with locally advanced or metastatic HER2-positive gastric or GEJ adenocarcinoma who had progressed  
 807 on a prior trastuzumab-based regimen. Patients were required to have centrally confirmed HER2  
 808 positivity defined as IHC 3+ or IHC 2+/ISH-positive. The study excluded patients with a history of  
 809 ILD/pneumonitis requiring treatment with steroids or ILD/pneumonitis at screening, patients with a  
 810 history of clinically significant cardiac disease, and patients with active brain metastases. Enhertu was  
 811 administered by intravenous infusion at 6.4 mg/kg every three weeks until disease progression, death,  
 812 withdrawal of consent, or unacceptable toxicity. The primary efficacy outcome measure was confirmed  
 813 ORR assessed by ICR based on RECIST v1.1. DOR and OS were secondary endpoints.

814  
 815 Of the 79 patients enrolled in DESTINY-Gastric02, demographic and baseline disease characteristics  
 816 were: median age 61 years (range 20 to 78); 72% were male; 87% were White, 5.0% were Asian and  
 817 1.0% were Black or African American. Patients had an ECOG performance status of either 0 (37%) or

818 1 (63%); 34% had gastric adenocarcinoma and 66% had GEJ adenocarcinoma; 86% were IHC 3+ and  
 819 13% were IHC 2+/ISH-positive, and 63% had liver metastases.

820

821 Efficacy results for ORR and DOR are summarised in Table 9.

822

823 **Table 9: Efficacy results in DESTINY-Gastric02 (full analysis set\*)**

Efficacy parameter	DESTINY-Gastric02 N = 79
<i>Data cutoff date 08 November 2021</i>	
<b>Confirmed objective response rate<sup>†</sup></b> % (95% CI) <sup>‡</sup>	41.8 (30.8, 53.4)
Complete response n (%)	4 (5.1)
Partial response n (%)	29 (36.7)
<b>Duration of response</b> Median <sup>§</sup> , months (95% CI) <sup>¶</sup>	8.1 (5.9, NE)

824 NE = Not estimable

825 \*Includes all patients who received at least one dose of Enhertu

826 <sup>†</sup>Assessed by independent central review

827 <sup>‡</sup>Calculated using Clopper-Pearson method

828 <sup>§</sup>Based on Kaplan-Meier estimate

829 <sup>¶</sup>Calculated using the Brookmeyer and Crowley method

830

831 *DESTINY-Gastric01 (NCT03329690)*

832 The efficacy and safety of Enhertu were studied in DESTINY-Gastric01, a Phase 2, multicentre, open-  
 833 label, randomised study conducted at sites in Japan and South Korea. This supportive study included  
 834 adult patients with locally advanced or metastatic HER2-positive gastric or GEJ adenocarcinoma who  
 835 had progressed on at least two prior regimens, including trastuzumab, a fluoropyrimidine agent, and a  
 836 platinum agent. Patients were randomised 2:1 to receive either Enhertu (N = 126) or physician's choice  
 837 of chemotherapy: either irinotecan (N = 55) or paclitaxel (N = 7). Tumour samples were required to  
 838 have centrally confirmed HER2 positivity defined as IHC 3+ or IHC 2+/ISH-positive. The study  
 839 excluded patients with a history of ILD/pneumonitis requiring treatment with steroids or  
 840 ILD/pneumonitis at screening, patients with a history of clinically significant cardiac disease, and  
 841 patients with active brain metastases. Treatment was administered until disease progression, death,  
 842 withdrawal of consent, or unacceptable toxicity. The primary efficacy outcome measure was  
 843 unconfirmed ORR assessed by ICR based on RECIST v1.1. Overall survival (OS), progression-free  
 844 survival (PFS), DOR, and confirmed ORR were secondary outcome measures.

845

846 Demographic and baseline disease characteristics were similar between treatment arms. Of the 188  
 847 patients, the median age was 66 years (range 28 to 82); 76% were male; 100% were Asian. Patients had  
 848 an ECOG performance status of either 0 (49%) or 1 (51%); 87% had gastric adenocarcinoma and 13%  
 849 had GEJ adenocarcinoma; 76% were IHC 3+ and 23% were IHC 2+/ISH-positive; 54% had liver  
 850 metastases; 29% had lung metastases; the sum of diameters of target lesions was < 5 cm in 47%, ≥ 5 to  
 851 < 10 cm in 30%, and ≥ 10 cm in 17%; 55% had two and 45% had three or more prior regimens in the  
 852 locally advanced or metastatic setting.

853

854 Efficacy results (data cutoff date: 03 June 2020) for Enhertu (n = 126) vs. physician's choice of  
 855 chemotherapy (n = 62) were confirmed ORR 39.7% (95% CI: 31.1, 48.8) vs. 11.3% (95% CI: 4.7, 21.9).  
 856 Complete response rate was 7.9% vs. 0% and partial response rate was 31.7% vs. 11.3%. Additional  
 857 efficacy results for Enhertu vs. physician's choice of chemotherapy were median DOR of 12.5 months  
 858 (95% CI: 5.6, NE) vs. 3.9 months (95% CI: 3.0, 4.9). Median PFS was 5.6 months (95% CI: 4.3, 6.9)  
 859 vs. 3.5 months (95% CI: 2.0, 4.3; hazard ratio = 0.47 [95% CI: 0.31, 0.71]). An OS analysis,  
 860 prespecified at 133 deaths, showed survival benefit with Enhertu treatment compared to the physician's  
 861 choice group (hazard ratio = 0.60). The median OS was 12.5 months (95% CI: 10.3, 15.2) in the Enhertu  
 862 group and 8.9 months (95% CI: 6.4, 10.4) in the physician's choice group.

## 863 5.2 Pharmacokinetic properties

864

### 865 Absorption

866

867 Trastuzumab deruxtecan is administered intravenously. There have been no studies performed with  
868 other routes of administration.

869

### 870 Distribution

871

872 Based on population pharmacokinetic analysis, the volume of distribution of the central compartment  
873 (V<sub>c</sub>) of trastuzumab deruxtecan and topoisomerase I inhibitor, DXd, were estimated to be 2.68 L and  
874 28.0 L, respectively.

875

876 *In vitro*, the mean human plasma protein binding of DXd was approximately 97%.

877

878 *In vitro*, the blood to plasma concentration ratio of DXd was approximately 0.6.

879

### 880 Biotransformation

881

882 Trastuzumab deruxtecan undergoes intracellular cleavage by lysosomal enzymes to release the DXd.

883

884 The humanised HER2 IgG1 monoclonal antibody is expected to be degraded into small peptides and  
885 amino acids via catabolic pathways in the same manner as endogenous IgG.

886

887 *In vitro* metabolism studies in human liver microsomes indicate that DXd is metabolised mainly by  
888 CYP3A4 via oxidative pathways.

889

### 890 Elimination

891

892 Following intravenous administration of trastuzumab deruxtecan in patients with metastatic HER2-  
893 positive, HER2-low breast cancer or HER2-mutant NSCLC, the clearance of trastuzumab deruxtecan in  
894 population pharmacokinetic analysis was calculated to be 0.4 L/day and the clearance of DXd was  
895 18.4 L/h. In patients with locally advanced or metastatic gastric or GEJ adenocarcinoma, trastuzumab  
896 deruxtecan clearance was 20% higher than in patients with metastatic HER2-positive breast cancer. In  
897 cycle 3, the apparent elimination half-life (t<sub>1/2</sub>) of trastuzumab deruxtecan and released DXd was  
898 approximately 7 days. Moderate accumulation (approximately 35% in cycle 3 compared to cycle 1) of  
899 trastuzumab deruxtecan was observed.

900

901 Following intravenous administration of DXd to rats, the major excretion pathway was faeces via the  
902 biliary route. DXd was the most abundant component in urine, faeces, and bile. Following single  
903 intravenous administration of trastuzumab deruxtecan (6.4 mg/kg) to monkeys, unchanged released  
904 DXd was the most abundant component in urine and faeces. DXd excretion was not studied in humans.

905

### 906 *In vitro* interactions

907

#### 908 *Effects of Enhertu on the pharmacokinetics of other medicinal products*

909 *In vitro* studies indicate DXd does not inhibit major CYP450 enzymes including CYP1A2, 2B6, 2C8,  
910 2C9, 2C19, 2D6 and 3A. *In vitro* studies indicate that DXd does not inhibit OAT1, OAT3, OCT1, OCT2,  
911 OATP1B1, OATP1B3, MATE1, MATE2-K, P-gp, BCRP, or BSEP transporters.

912

#### 913 *Effects of other medicinal products on the pharmacokinetics of Enhertu*

914 *In vitro*, DXd was a substrate of P-gp, OATP1B1, OATP1B3, MATE2-K, MRP1, and BCRP.

915 No clinically meaningful interaction is expected with medicinal products that are inhibitors of MATE2-  
916 K, MRP1, P-gp, OATP1B, or BCRP transporters (see section 4.5).

917



918 Linearity/non-linearity

919

920 The exposure of trastuzumab deruxtecan and released DXd when administered intravenously increased  
921 in proportion to dose in the 3.2 mg/kg to 8.0 mg/kg dose range (approximately 0.6 to 1.5 times the  
922 recommended dose) with low to moderate inter-subject variability. Based on population  
923 pharmacokinetic analysis, inter-subject variability in trastuzumab deruxtecan and DXd elimination  
924 clearances were 24% and 28%, respectively, and for central volume of distribution were 16% and 55%,  
925 respectively. The intra-subject variability in trastuzumab deruxtecan and DXd AUC values (area under  
926 the serum concentration versus time curve) was approximately 8% and 14%, respectively.

927

928 Special populations

929

930 Based on population pharmacokinetic analysis, age (20-96 years), race, ethnicity, sex and body weight  
931 did not have a clinically meaningful effect on exposure of trastuzumab deruxtecan or released DXd.

932

933 *Elderly*

934 The population PK analysis showed that age (range: 20-96 years) did not affect the PK of trastuzumab  
935 deruxtecan.

936

937 *Renal impairment*

938 No dedicated renal impairment study was conducted. Based on population pharmacokinetic analysis  
939 including patients with mild (creatinine clearance [CLCr]  $\geq 60$  and  $< 90$  mL/min) or moderate  
940 (CLCr  $\geq 30$  and  $< 60$  mL/min) renal impairment (estimated by Cockcroft-Gault), the pharmacokinetics  
941 of the released DXd was not affected by mild or moderate renal impairment as compared to normal renal  
942 function (CLCr  $\geq 90$  mL/min).

943

944 *Hepatic impairment*

945 No dedicated hepatic impairment study was conducted. Based on population pharmacokinetic analysis,  
946 the impact of changes on pharmacokinetics of trastuzumab deruxtecan in patients with total bilirubin  
947  $\leq 1.5$  times ULN, irrespective of AST level, is not clinically meaningful. There is limited data for  
948 patients with total bilirubin  $> 1.5$  to 3 times ULN, irrespective of AST level, to draw conclusions, and  
949 no data is available for patients with total bilirubin  $> 3$  times ULN, irrespective of AST level (see  
950 sections 4.2 and 4.4).

951

952 *Paediatric population*

953 No studies have been conducted to investigate the pharmacokinetics of trastuzumab deruxtecan in  
954 children or adolescents.

955

956 **5.3 Preclinical safety data**

957

958 In animals, toxicities were observed in lymphatic and haematopoietic organs, intestines, kidneys, lungs,  
959 testes and skin following the administration of trastuzumab deruxtecan at exposure levels of the  
960 topoisomerase I inhibitor (DXd) below clinical plasma exposure. In these animals, antibody-drug  
961 conjugate (ADC) exposure levels were similar or above clinical plasma exposure.

962

963 DXd was clastogenic in both an *in vivo* rat bone marrow micronucleus assay and an *in vitro* Chinese  
964 hamster lung chromosome aberration assay and was not mutagenic in an *in vitro* bacterial reverse  
965 mutation assay.

966

967 Carcinogenicity studies have not been conducted with trastuzumab deruxtecan.

968

969 Dedicated fertility studies have not been conducted with trastuzumab deruxtecan. Based on results from  
970 general animal toxicity studies, trastuzumab deruxtecan may impair male reproductive function and  
971 fertility.

972

973 There were no animal reproductive or developmental toxicity studies conducted with trastuzumab  
974 deruxtecan. Based on results from general animal toxicity studies, trastuzumab deruxtecan and DXd

975 were toxic to rapidly dividing cells (lymphatic/haematopoietic organs, intestine, or testes), and DXd was  
976 genotoxic, suggesting the potential for embryotoxicity and teratogenicity.

977  
978

## 979 **6. PHARMACEUTICAL PARTICULARS**

980

### 981 **6.1 List of excipients**

982

983 L-histidine

984 L-histidine hydrochloride monohydrate

985 Sucrose

986 Polysorbate 80

987

### 988 **6.2 Incompatibilities**

989

990 In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal  
991 products except those mentioned in section 6.6.

992

993 Sodium chloride solution for infusion must not be used for reconstitution or dilution since it may cause  
994 particulate formation.

995

### 996 **6.3 Shelf life**

997

#### 998 Unopened vial

999

1000 This medicine should not be used after the expiry date EXP shown on the pack

#### 1001 Reconstituted solution

1002

1003 Chemical and physical in-use stability has been demonstrated for up to 48 hours at 2 °C to 8 °C.

1004

1005 From a microbiological point of view, the product should be used immediately. If not used immediately,  
1006 in-use storage times and conditions prior to use are the responsibility of the user and would normally  
1007 not be longer than 24 hours at 2 °C to 8 °C, unless reconstitution has taken place in controlled and  
1008 validated aseptic conditions.

1009

#### 1010 Diluted solution

1011

1012 It is recommended that the diluted solution be used immediately. If not used immediately, the  
1013 reconstituted solution diluted in infusion bags containing 5% glucose solution may be stored at room  
1014 temperature ( $\leq 30$  °C) for up to 4 hours including preparation and infusion or in a refrigerator at 2 °C to  
1015 8 °C for up to 24 hours, protected from light.

1016

### 1017 **6.4 Special precautions for storage**

1018

1019 Store in a refrigerator (2 °C - 8 °C).

1020

1021 Do not freeze.

1022

1023 For storage conditions after reconstitution and dilution of the medicinal product, see section 6.3.

1024

### 1025 **6.5 Nature and contents of container**

1026

1027 Enhertu is provided in 10 mL Type 1 amber borosilicate glass vial sealed with a fluoro-resin laminated  
1028 butyl rubber stopper, and a polypropylene/aluminium yellow flip-off crimp cap.

1029

1029 Each carton contains 1 vial.

1030

1031 **6.6 Special precautions for disposal and other handling**

1032

1033 In order to prevent medicinal product errors, it is important to check the vial labels to ensure that the  
1034 medicinal product being prepared and administered is Enhertu (trastuzumab deruxtecan) and not  
1035 trastuzumab or trastuzumab emtansine.

1036

1037 Appropriate procedures for the preparation of chemotherapeutic medicinal products should be used.

1038 Appropriate aseptic technique should be used for the following reconstitution and dilution procedures.

1039

1040 Reconstitution

1041

1042 • Reconstitute immediately before dilution.

1043 • More than one vial may be needed for a full dose. Calculate the dose (mg), the total volume of  
1044 reconstituted Enhertu solution required, and the number of vial(s) of Enhertu needed (see  
1045 section 4.2).

1046 • Reconstitute each 100 mg vial using a sterile syringe to slowly inject 5 mL of water for injection  
1047 into each vial to obtain a final concentration of 20 mg/mL.

1048 • Swirl the vial gently until completely dissolved. Do not shake.

1049 • From a microbiological point of view, the product should be used immediately. If not used  
1050 immediately, chemical and physical in-use stability has been demonstrated for up to 48 hours at  
1051 2 °C to 8 °C. Store the reconstituted Enhertu vials in a refrigerator at 2 °C to 8 °C, protected from  
1052 light. Do not freeze.

1053 • The reconstituted product contains no preservative and is intended for single use only.

1054

1055 Dilution

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1057 • Withdraw the calculated amount from the vial(s) using a sterile syringe. Inspect the reconstituted  
1058 solution for particulates and discolouration. The solution should be clear and colourless to light  
1059 yellow. Do not use if visible particles are observed or if the solution is cloudy or discoloured.

1060 • Dilute the calculated volume of reconstituted Enhertu in an infusion bag containing 100 mL of  
1061 5% glucose solution. Do not use sodium chloride solution (see section 6.2). An infusion bag made  
1062 of polyvinylchloride or polyolefin (copolymer of ethylene and polypropylene) is recommended.

1063 • Gently invert the infusion bag to thoroughly mix the solution. Do not shake.

1064 • Cover the infusion bag to protect from light.

1065 • If not used immediately, store at room temperature for up to 4 hours including preparation and  
1066 infusion or in a refrigerator at 2 °C to 8 °C for up to 24 hours, protected from light. Do not freeze.

1067 • Discard any unused portion left in the vial.

1068

1069 Administration

1070

1071 • If the prepared infusion solution was stored refrigerated (2 °C to 8 °C), it is recommended that the  
1072 solution be allowed to equilibrate to room temperature prior to administration, protected from  
1073 light.

1074 • Administer Enhertu as an intravenous infusion only with a 0.20 or 0.22 micron in-line  
1075 polyethersulfone (PES) or polysulfone (PS) filter.

1076 • The initial dose should be administered as a 90-minute intravenous infusion. If the prior infusion  
1077 was well tolerated, subsequent doses of Enhertu may be administered as 30-minute infusions. Do  
1078 not administer as an intravenous push or bolus (see section 4.2).

1079 • Cover the infusion bag to protect from light.

1080 • Do not mix Enhertu with other medicinal products or administer other medicinal products through  
1081 the same intravenous line.

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1083 Disposal

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1085 Any unused medicinal product or waste material should be disposed of in accordance with local  
1086 requirements.

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**7. MARKETING AUTHORISATION HOLDER**

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**8. MARKETING AUTHORISATION NUMBER(S)**

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