Online Resource 1. Inclusion and exclusion criteria

Inclusion	
Patient and disease related	Histological or cytological confirmation of unresectable measurable malignant pleural mesothelioma for which no prior systemic therapy was administered or after recurrence after local therapy
	Measurable lesions according to Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1.
	18 years and older
	Archival material available
	Eastern Cooperative Oncology Group (ECOG) Performance Status 0-2
Hematologic values	hemoglobin ≥ 10 g/dL, neutrophils ≥ $1.5x10^9$/L, platelets ≥ $100x10^9$/L, partial thromboplastin time ≤ 1.25x upper limit of normal (ULN)),
Hepatic function	albumin ≥ 2.5 g/dL, total bilirubin ≤ 1.25x ULN , aspartate aminotransferase (AST)/alanine aminotransferase (ALT) ≤ 2.5x ULN
Renal function	serum creatinine ≤ 1.5x ULN or creatinine clearance ≥ 45 mL/min
Cardiac function	Left ventricular ejection fraction ≥ lower limit of normal by echocardiography
Exclusion	
	Previous treatment with any FGFR inhibitor Any biological therapy within six weeks prior to the first dose of GSK3052230
	Any unresolved toxicity from anticancer therapy ≥ grade 2, except alopecia, active malignancy, symptomatic leptomeningeal or brain metastases
	Uncontrolled infections, prior trauma or surgery within 28 days before the first dose of study drug, cardiac abnormalities, human immunodeficiency positivity
	Conditions likely to increase the potential for abdominal perforation or fistula formation such as ulcers, pelvic radiation or intra-abdominal abscesses in the recent history.

Online Resource 2. Study-specified DLT definitions. DLTs defined as toxicities occurring within the first 21 days of period on study and at least possibly related to GSK3052230 alone or in combination with pemetrexed/cisplatin.

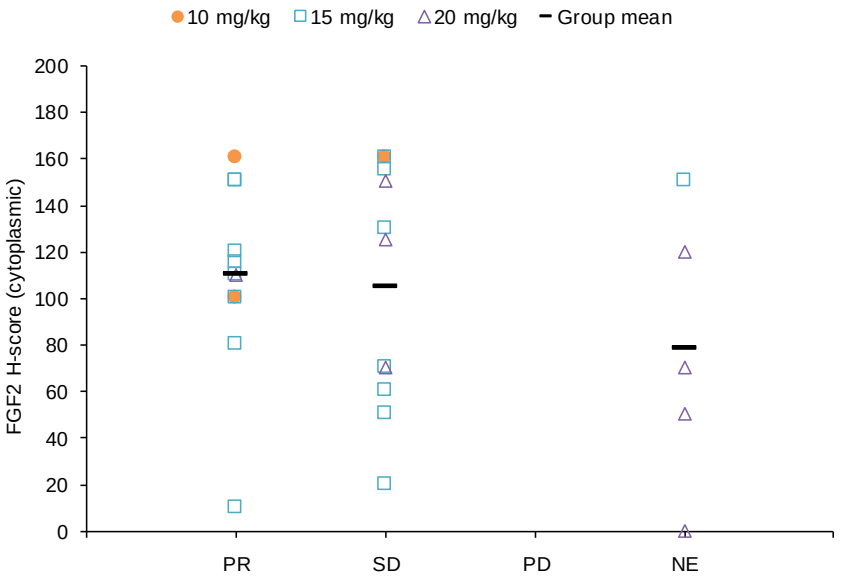
Toxicity	**Definition**
Hematologic	• Grade 4 neutropenia for more than 7 days • Grade 4 febrile neutropenia • Grade 4 thrombocytopenia
Non-hematologic	• Grade 4 clinically significant laboratory abnormalities with duration greater than 48 hours • Grade 3 or greater clinically significant non-hematologic toxicity, with the following exceptions: o Grade 3 nausea/vomiting or diarrhea that responds to optimal medical care within 3 days o Grade 3 infusion reactions that can be medically managed without the use of systemic antihypotensives and allow completion of infusion • Any grade 2 toxicity occurring within or beyond the 21-day period which in the judgment of the investigator and GSK medical monitor is considered a DLT • Treatment delay of ≥ 14 days due to unresolved study drug-related toxicity

Online Resource 3. FGF2 protein expression in FFPE mesothelioma specimens by IHC

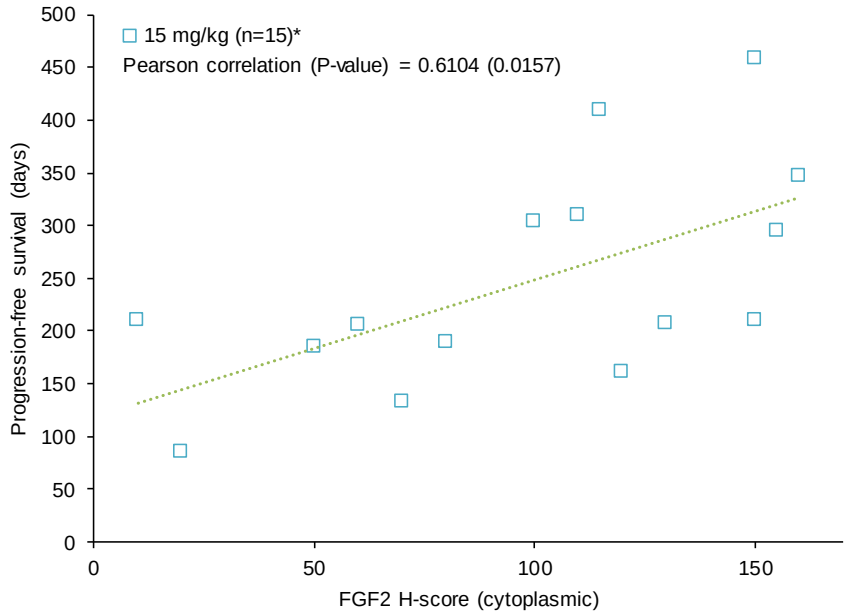
Subject Number	Cytoplasmic Staining					Nuclear Staining				
	3+	2+	1+	0	H-score	3+	2+	1+	0	H-score
1302	0	0	70	30	70	0	0	5	95	5
1614	0	70	20	10	160	10	5	10	75	50
2203	0	50	50	0	150	15	15	20	50	95
2211	0	0	20	80	20	70	10	10	10	240
2213	0	0	10	90	10	0	0	10	90	10
2402	0	20	60	20	100	10	10	5	75	55
2601	0	0	50	50	50	10	15	25	50	85
2801	0	60	40	0	160	10	15	15	60	75
3006	0	25	75	0	125	2	3	3	92	15
3009	0	0	70	30	70	0	0	0	100	0
3011	0	40	50	10	130	5	5	15	75	40
3012	0	0	50	50	50	0	0	0	100	0
3014	0	50	50	0	150	0	10	20	70	40
3016	0	25	65	10	115	5	5	20	70	45
3019	0	60	40	0	160	25	10	10	55	105
3100	0	20	70	10	110	5	3	2	90	23
3300	0	0	0	100	0	5	5	15	75	40
3302	0	0	80	20	80	10	20	50	20	120
3406	0	20	80	0	120	0	2	2	96	6
3408	0	50	50	0	150	0	0	2	98	2
3411	0	40	40	20	120	40	30	20	10	200
3413	0	0	60	40	60	0	0	0	100	0
3414	0	0	70	30	70	2	2	6	90	16
3415	0	0	100	0	100	20	50	20	10	180
4263	0	30	50	20	110	0	0	0	100	0
4300	0	50	50	0	150	30	10	10	50	120
4500	0	60	35	5	155	50	20	20	10	210

Note: H-score calculated as: H-score = (Percentage of 0 scoring x 0) + (Percentage of 1+ scoring x 1) + (Percentage of 2+ scoring x 2) + (Percentage of 3+ scoring x 3).

a.



b.



Online Resource 4. Comparison of FGF2 IHC H-score with response rate and progression-free survival. (a) FGF2 IHC H-score for cytoplasmic staining was compared against the best overall response for GSK3052230-treated patients where archival FFPE tumor tissue was available. No correlation between FGF expression and response was observed for cytoplasmic or nuclear (not shown) FGF2 H-score. PR: partial response; SD: stable disease; PD: progressive disease; NE: not evaluable. (b) Duration of progression-free survival correlated positively with increasing expression levels of cytoplasmic FGF2 expression in 15 mg/kg GSK3052230-treated patients where archival FFPE tumor tissue was available. No correlation was observed in these samples when comparing nuclear FGF2 H-score with PFS or when comparing all dose cohorts FGF2 expression (cytoplasmic or nuclear) with PFS (data not shown).