MONOCLONAL ANTIBODY DATASHEET

VERTEBRATE ANTIBODIES

clone 5D3, against human cytochrome P450 1B1

Specificity:	human cytochrome P450 1B1 (CYP1B1)
Description:	monoclonal antibody against human CYP1B1, supplied as hybridoma supernatant
Isotype:	$G1_{\kappa}$
Clone:	5D3
Purification:	unpurified; supplied as hybridoma supernatant
Immunogen:	ovalbumin-conjugated synthetic peptide; PENFDPARFLDKDGL (aa. 437-451)
B Cell Donor:	BALB-c mouse
Fusion Partner:	Ag 8563
Positive Control:	**IHC:** formalin-fixed, paraffin-embedded ovarian cancer sections **Western Blot:** rhCYP1B1 from lymphoblastoid cells (Gentest); 10μg microsomal protein / lane
Cross-reactivity:	not reactive with CYP1A1

Applications		Recommended Dilution	Recommended Pre-treatment
ELISA	not tested	-	n/a
Western Blot	✓	1/10 - 1/100	n/a
IHC	✓	1/5	antigen retrieval: microwave 20 min @ 800W in 10mM citrate buffer, pH 6.0

Tissues tested for CYP1B1 expression using MAb 5D3	Staining Pattern	Ref no.
human breast tumour (invasive ductal carcinoma)	+ve 40/52 tumours	1
human breast tumour (invasive lobular carcinoma)	+ve in 6/8 tumours	1
normal human ovary	staining not detected	2, 3
human primary ovarian tumour (mixed types)	+ve in 153/167	2, 3
stomach carcinoma (and normal tissue control)	+ve in tumour, -ve in control	3
squamous oesophageal carcinoma (+ normal tissue control)	+ve in tumour, -ve in control	3
rhabdomyosarcoma (and normal tissue control)	+ve in tumour, -ve in control	3
microsomal preparations from panel of normal tissues, tumours and cancer cell lines, examined by Western blotting	antigen over-expressed in tumours and cell lines.	4
prostate and bladder (tumour, normal); MaxArray human normal tissue microarray (Zymed Laboratory Inc.)	+ve in 75% prostate and 100% bladder tumours, -ve in normals	5

References

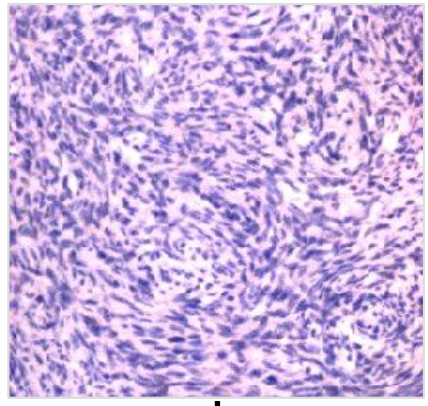
1 McFadyen, MCE, Breeman, S, Payne, S, *et al* (**1999**) Immunohistochemical localization of Cytochrome P450 CYP1B1 in Breast Cancer with Monoclonal Antibodies Specific for CYP1B1. *The Journal of Histochemistry and Cytochemistry* **47**(11):1457-1464

2 McFadyen MCE, Cruickshank ME, Miller ID, *et al* (**2001**) Cytochrome P450 CYP1B1 over-expression in primary and metastatic ovarian cancer. *British Journal Of Cancer* **85:** 242-246.

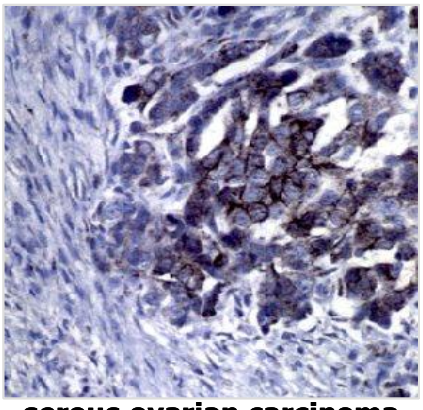
3 Murray GI, Melvin WT, Greenlee WF, Burke MD (**2001**) Regulation, function, and tissue-specific expression of cytochrome P450 CYP1B1. Ann Rev Pharmacol Toxicol **41**: 297-316.

4 Maecker B, Sherr DH, Vonderheide RH *et al* (**2003**) The shared tumor-associated antigen cytochrome P450 1B1 is recognized by specific cytotoxic T cells. *Blood* **102**: 3287-94.

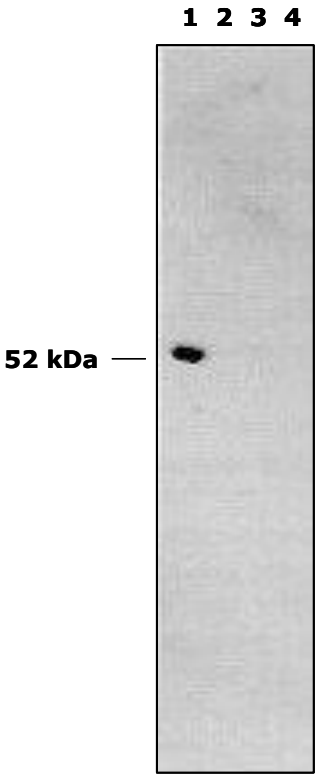
5 Carnell DM, Smith RE, Daley FM *et al* (**2004**) Target validation of cytochrome P450 CYP1B1 in prostate carcinoma with protein expression in in associated hyperplastic and premalignant tissue. *Int. J. Radiation Oncology Biol. Phys.* **58**: 500-509.

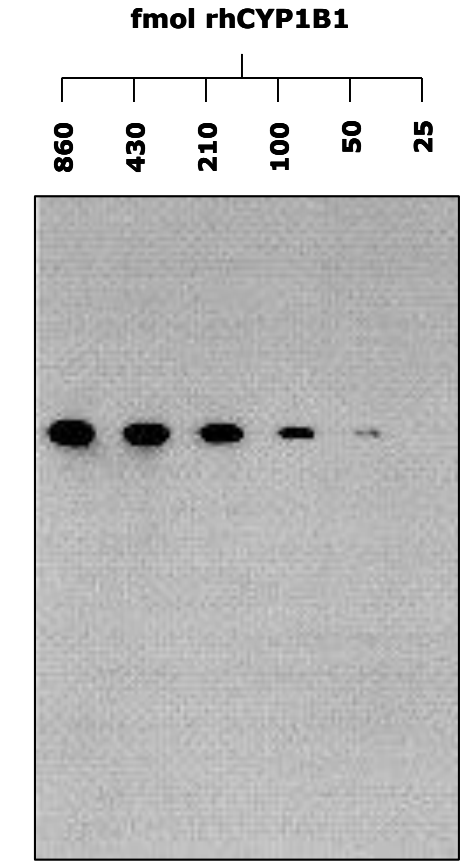


normal ovary



serous ovarian carcinoma





A: IHC with MAb 5D3: staining of formalin-fixed, paraffin-embedded human tissue sections

B: immunoblotting with 5D3 antibody:
Lane 1: microsomes from human lymphoblastoid cells expressing rhCYP1B1
Lane 2: microsomes from human lymphoblastoid cells expressing rhCYP1A1
Lane 3: expression vector control
Lane 4: normal human liver microsomes (10 μg microsomal protein / lane, all from Gentest Corp)

C: determining limit of detection in immunoblotting with MAb 5D3, using Gentest rhCYP1B1 microsomes