ebpi environmental bio-detection products inc.

6800 Campobello Road, Mississauga, Ontario
Phone: 905-826-TEST (8378) toll free: 844-700-EBPI (3274)

CHAIN OF CUSTODY (COC) MUTAGENICITY

www.ebpilabs.com

INVOICE INFORMATION	REPORT INFORMATION	PROJECT INFORMATION	TURNAROUND TIME (TAT)
Company Name:	☐ Same as invoice information	Quotation #:	☐ Regular TAT (15-25 days)
Contact Name:	Company Name:	P.O. #:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address:	Contact Name:	Project #:	Rush TAT (Applicable Surcharge)
Phone: Fax:	Address:	Site Location:	☐ 5-7 Days (25%)
Email:	Phone: Fax:	Site #:	
	Email:	Sampled By:	

Sample Preparation Steps

☐ pH Adjustment ☐ Concentrate Sample

☐ Filtration/ Sterilization

☐ DMSO suspension or dissolution (solid samples)

SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO EBPI labs

ANALYSIS REQUESTED

Rush Confirmation (Y/N):

Date Required:

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF DILUTIONS	# OF REPLICATES	TEST METHOD	AMES ASSAYS								AMES-EXPRESS ASSAYS									
						BACTERIAL STRAINS								EXPRESS P450 1A2					EXPRESS GST T1-1				
														BACTERIAL STRAINS									
					AMES TEST	MUTA-CHROMOPLATE	MODIFIED ISO	TA 100	TA 98	TA 1535	TA 97a	WP2 uvrA	WP2 uvrA pKM 101	S9 FRACTION	TA 100	TA 98	TA 1535	TA 97a		TA 100	TA 1535	TA 98		
1																							
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

LABORATORY USE ONLY

Sample Seal (Y/N)		Temperature (°C) upon Receipt	pH upon Receipt
Present			
Intact			

COMMENTS/ INSTRUCTIONS

SUBMITTED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME:	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME:	EBPI LABS PROCESSING #	COMPLETION DATE	TECHNITIAN INITIALS
							CLIENT CONTACTED (Y/N)	

EBPI ANALYTICS LABORATORY SERVICES

Bacterial Strain Options for Ames Assays and Ames Express Assays

Bacterial Strain	Mutation Site (gene)	Type of Reversion Mutation	Standard Mutagens	Comments
TA 100	*hisG46*	Base-pair substitution (specific for G:A transitions, also detects G:T and G:C transversions)	NaN_3	Uvr B repair deficient, with rfa mutation to increase permeability. Includes plasmid pKM 101 which induces an error-prone DNA repair pathway and inhibits proper DNA replication
TA98	*hisD3052*	+1 and -2 frameshifts	2NF	UvrB repair deficient, with rfa mutation to increase toxicant permeability Contains plasmid pKM 101, induces an error-prone DNA repair pathway and inhibits proper DNA replication
TA 97a	*his6610*	-1 and +1 frameshifts	9AA	Uvr B repair deficient, with rfa mutation to increase permeability Includes plasmid pKM 101 which induces an error-prone DNA repair pathway and inhibits proper DNA contains extra mutational hotspot to detect similar mutations to TA98 strain
TA 1535	*hisG46*	Base-pair substitution (specific for G:A transitions, also detects G:T and G:C transversions)	NaN_3	Uvr B repair deficient, with rfa mutation of the cell wall to increase permeability Similar mutations detected as TA100, lacks pKM 101 plasmid
WP2 uvrA	*trpE65*	Base-pair substitution (A:T)	4NQO	UvrA deletion mutation eliminates accurate excision repair mechanism More DNA lesions repaired by error-proned system
WP2 uvrA pKM 101	*trpE65*	Base-pair substitution (A:T)	4NQO	Enhances chemical and UV mutagenisis by conferring supplementary error-prone DNA repair activity in pKM 101 plasmid.

Ames-Express Assays

At EBPI, we have engineered the expression of two human metabolic enzymes (CYP 450 1A2 and GST T1-1) into our Ames test bacteria, which eliminates the need to add rat liver enzymes (S9 fraction) to induce metabolic bioactivation. S9 fractions are available for the all Ames assays.

Benefits of our NEW Ames-Express systems:

- Internal metabolic activation allows detection of short-lived mutagenic metabolites
- Lowers possible sequestering of potential mutagens through protein binding with S9 fraction components
- **INCREASES** human biological relevance, since enzymes expressed are human proteins
-Provides selective detection of compound classes (halogenated alkanes, PAHs) within environmental samples

Assay Method Options

Method	Comments
Standard Ames Test	Plate method, widely used, industry standard, small sample size, sample concentration possible
Modified ISO	Modified fluctuation test, pre-exposure, increased sensitivity, sample concentration possible
Muta-ChromoPlate	Fluctuation test, no pre-exposure, increased sensitivity, constant exposure concentration

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