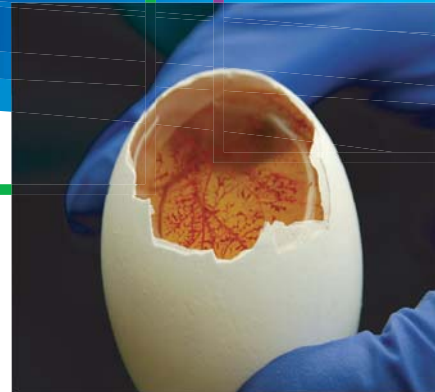
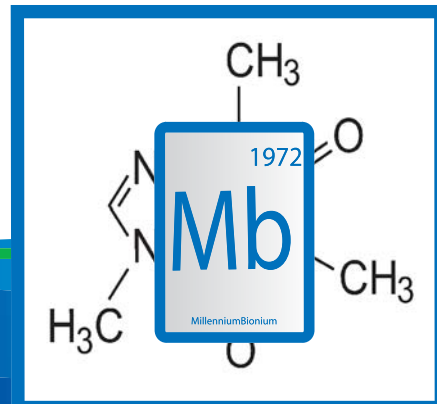
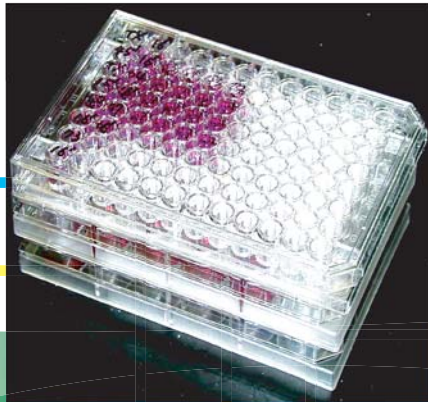


Capabilities List



MB Research Labs

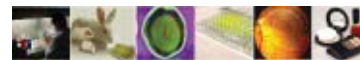
Experience and Innovation



Toxicology Testing Services

Acute and Subchronic Toxicology
Alternative and In Vitro Studies





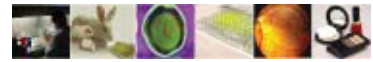
Toxicology Testing Services

EPA – OPPTS Series 870	MB Protocol #
Acute Oral Toxicity – Up and Down Procedure (UPD) (OPPTS 870.11)	1010-03
Acute Oral Toxic Class Determination (OPPTS 870.1000)	1011-02
Acute Dermal Toxicity/LD ₅₀ in Rabbits (OPPTS 870.1200)	1100-03
Primary Dermal Irritation in Rabbits (OPPTS 870.2500)	1130-04
Acute Eye Irritation in Rabbits (OPPTS 870.2400)	1200-03
Acute Inhalation Toxicity / LC ₅₀ in Rats (OPPTS 870.1300)	1300-03
Delayed Contact Dermal Sensitization Test – Buehler Method (OPPTS 870.2600)	1160-05
<ul style="list-style-type: none"> Historical Positive Control [α-Hexylcinnamaldehyde (HCA)] Report Available 	

OECD Series 400	MB Protocol #
Acute Oral Toxicity – Up and Down Procedure (UPD) (OECD 425)	1010-03
Acute Oral Toxic Class Determination (OECD 423)	1011-02
Acute Dermal Toxicity/LD ₅₀ in Rabbits (OECD 402)	2100-02
Primary Dermal Irritation in Rabbits (OECD 404)	2130-04
Acute Eye Irritation in Rabbits (OECD 405)	2200-04
Acute Inhalation Toxicity / LC ₅₀ in Rats (OECD 403)	2300
Guinea Pig Maximization Test (Magnusson-Kligman) (OECD 406)	2160-03
<ul style="list-style-type: none"> Historical Positive Control (2-Mercaptobenzothiazole, 97%) Report Available 	

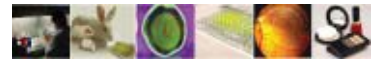
DOT 49 CFR	MB Protocol #
Single Dose Oral Toxicity / LD ₅₀ in Rats	4000-02
Acute Dermal Toxicity in Rabbits	4100-03
Primary Dermal Irritation / Corrosion in Rabbits	4130-06
Acute Inhalation Toxicity / LC ₅₀ in Rats	4300-01

FHSA and FDA 16 CFR	MB Protocol #
Single Dose Oral Toxicity in Rats	3000-01
Acute Dermal Toxicity in Rabbits	3100-03
Primary Dermal Irritation in Rabbits	3130-02
Primary Eye Irritation in Rabbits	3200-02
Acute Inhalation Toxicity / LC ₅₀ in Rats	3300



ISO/USP and SPECIALTY	MB Protocol #
Muscle Implantation	448
Intracutaneous Irritation	445-01
Systemic Injection Test in Mice	602-03
ISO Skin Irritation Test in Albino Rabbits	5130-02
ISO Guinea Pig Maximization Test (Magnusson-Kligman)	5160
<ul style="list-style-type: none"> Historical Positive Control (2-Mercaptobenzothiazole, 97%) Report Available 	
ISO Guinea Pig Sensitization Test (Buehler Method)	5170-01
<ul style="list-style-type: none"> Historical Positive Control (α-Hexylcinnamaldehyde (HCA)) Report Available 	
Vaginal Irritation in Rabbits	5400
Comedogenicity Assay	412C-02
Vaginal and Anal Mucosal Irritation	423B-02
Vaginal Mucosal Irritation	426A-03
Penile Mucosal Irritation	428-04
Hamster Cheek Pouch – Buccal Mucosal Irritation Study	438C-04

SUB-CHRONIC (EPA-OPPTS, OECD and FDA)	MB Protocol #
28 Day Oral Toxicity in Rats	
<ul style="list-style-type: none"> 4 Groups, 10 Animals per Group (OECD 407) <ul style="list-style-type: none"> 5-Day Dosing 7-Day Dosing 	2050 2050A-01
<ul style="list-style-type: none"> 4 Groups, 20 Animals per Group (OPPTS 870.3100) <ul style="list-style-type: none"> 5-Day Dosing 7-Day Dosing 	1050-01 1050A
28 Day Feeding Study in Rats	
<ul style="list-style-type: none"> 4 Groups, 10 Animals per Group (OECD 407) 4 Groups, 20 Animals per Group (OPPTS 870.3100) 	2051 1051
28 Day Dermal Toxicity in Rats	
<ul style="list-style-type: none"> 4 Groups, 10 Animals per Group (OECD 410) <ul style="list-style-type: none"> 5-Day Dosing 7-Day Dosing 4 Groups, 20 Animals per Group (OPPTS 870.3200) <ul style="list-style-type: none"> 5-Day Dosing 7-Day Dosing 	2151 2151A 1151 1151A 1151B

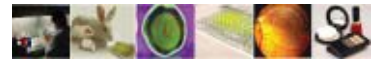


SUB-CHRONIC (EPA-OPPTS, OECD and FDA) (Continued)	MB Protocol #
90 Day Oral Toxicity in Rats	
<ul style="list-style-type: none"> • 4 Groups, 20 Animals per Group (OECD 408) <ul style="list-style-type: none"> ○ 5-Day Dosing ○ 7-Day Dosing • 4 Groups, 20 Animals per Group (OPPTS 870.3100) <ul style="list-style-type: none"> ○ 5-Day Dosing ○ 7-Day Dosing 	<p>2055 2055A 1055 1055A</p>
90 Day Feeding Study in Rats	2062 / 1062-01
<ul style="list-style-type: none"> • 4 Groups, 20 Animals per Group (OECD 408 / OPPTS 870.3100) 	
90 Day Dermal Toxicity in Rats	
<ul style="list-style-type: none"> • 4 Groups, 20 Animals per Group (OECD 411) <ul style="list-style-type: none"> ○ 5-Day Dosing ○ 7-Day Dosing • 4 Groups, 20 Animals per Group (OPPTS 870.3250) <ul style="list-style-type: none"> ○ 5-Day Dosing ○ 7-Day Dosing 	<p>2155 2155A 1155-01 1155A</p>
90 Day Oral Toxicity / Feeding Study in Dogs	
<ul style="list-style-type: none"> • 4 Groups, 8 Animals per Group (OECD 409 / OPPTS 870.3150) • 4 Groups, 8 Animals per Group, Mixed in feed (OECD 409 / OPPTS 870.3150) 	<p>2061 / 1061-01 2063 / 1063</p>
Functional Observational Battery (FOB)	

MECHANISTIC and FLOW CYTOMETRY	MB Protocol #
Anti-Angiogenesis Assay	700-02
Peroxide Production Assay (Lipid Peroxidation)	734-02
Nitric Oxide Synthase Activity (Irritation / Inflammatory Mediator)	730-01
Tyrosinase Inhibition Assay	780-01

ALTERNATIVE ASSAYS*	MB Protocol #
Chorioallantoic Membrane Vascular Assay (CAMVA)	
<ul style="list-style-type: none"> • 10 Day-old Eggs • 14 Day-old Eggs • Screening Study, 5 Dose Levels 	<p>439A-04 439-05 439B-03</p>
Bovine Corneal Opacity & Permeability (BCOP) Assay	
<ul style="list-style-type: none"> • BCOP Screening Assay • With Histology • OECD Guidelines 	<p>441-06 441B-02 2441</p>
CAMVA + BCOP Combination Assay	
<ul style="list-style-type: none"> • 10 Day-old Eggs • 14 Day-old Eggs 	<p>443A-01 443-05</p>
Porcine Corneal Opacity Reversibility Assay (PorCORA)	441C-01
Porcine Corneal Confocal Microscopy Cell Death Assay (PorFocal)	441D-01
HET-CAM: Invitox Protocol #47	439C-02
MatTek EpiOcular™ Screening Assay	720-04
MatTek EpiDerm™ Screening Assay	710-02

* Alternative to the Dermal or Ocular Draize Test

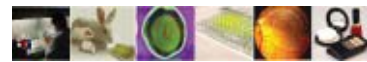


ALTERNATIVE ASSAYS (Continued)	MB Protocol #
Local Lymph Node Assay (LLNA) Standard Test (OECD 429/EPA)	5650A-07
Quantitative Irritation Screen	
<ul style="list-style-type: none"> Dose Determination for an Irritant 	--
Immunophenotyping (Activation Markers)	
<ul style="list-style-type: none"> %B and %T cells; B:T ratio 1-Ak + and CD69 cells 	--
Local Lymph Node Assay (LLNA)	
<ul style="list-style-type: none"> Single Dose Test to Determine Possible Sensitization Potential – No Screen 	5650B
Mouse Ear Swelling Test (MEST)	
<ul style="list-style-type: none"> Alternative to the Sensitization Test 	434C-05

PHOTOTOXICITY ASSAYS	MB Protocol #
EpiDerm™ Phototoxicity Assay*	
<ul style="list-style-type: none"> Photo-Irritation Test 	712
3T3 Neutral Red Uptake Phototoxicity Test (OECD 432)	
<ul style="list-style-type: none"> 3T3 Mouse Fibroblasts 	702-03
Photo Mouse Ear Swelling Test (Photo-MEST)	
<ul style="list-style-type: none"> Alternative Photo-sensitization Test 	434D
Photo-Local Lymph Node Assay (Photo LLNA)	
<ul style="list-style-type: none"> Photo Allergy Test 	5655

GENOTOXICITY ASSAYS	MB Protocol #
AMES Assay	
<ul style="list-style-type: none"> Bacterial Reverse Mutation Assay 	820-01

IN VITRO ASSAYS	MB Protocol #
Cytotoxicity via Cell Proliferation	
<ul style="list-style-type: none"> Using MTT or Neutral Red Cell Types <ul style="list-style-type: none"> Mouse Keratinocyte Mouse Cell Line or Primary Human Fibroblasts or Keratinocytes 	706-01
Cytotoxicity (ICCVAM Protocol)	
Cell Types <ul style="list-style-type: none"> Mouse Keratinocytes (PAM 212) or Fibroblasts Human Cell Line (HACAT or ATCC) Primary Human Cells 	701-02



IN VITRO ASSAYS (Continued)		MB Protocol #
MatTek EpiOcular™ Screening Assay*	Alternative Ocular Irritation Test	720-04
MatTek EpiDerm™ Screening Assay*	Alternative Dermal Irritation Test	710-02
MatTek EpiOral™ Assay*	Estimation of Oral Irritation Potential	715-01
MatTek EpiDerm™ SIT Assay	Alternative Dermal Irritation Test	713-01
MatTek EpiVaginal™ Assay*	Estimation of Vaginal Irritation Potential	725-01
MatTek EpiDerm™ Corrosivity Assay* (OECD 431)	Human Tissue Dermal Corrosivity Test	711-01
MatTek EpiDerm™ Phototoxicity Assay*	Photo-Irritation Test	712
MatTek EpiAirway™ Assay	Estimation of Lung Tissue Irritation	728-02
MatTek MelanoDerm™ Assay*	Skin Lightening and Darkening Assay	750-01
Agar Overlay	Cytotoxicity Test – L929 Cells	760-02
Corrositex®	Alternative to Draize Corrosivity	800-02

CUSTOM PROTOCOLS	MB Protocol #
Pharmacokinetic/Toxicokinetic Studies	Client Specific
• Rat, Mouse, Dog, Rabbit	
Emesis Model	Client Specific
• Ferret	
Intranasal Studies	Client Specific
• Rabbit, Rat, Dog	
In Vivo Photo Irritation	Client Specific
• Rat, Mouse, Rabbit, Guinea Pig	
Maximum Tolerated Dose/Dose Range Finding	Client Specific
• Rat, Dog	
Wound Healing Studies	Client Specific
• Pig, Guinea Pig	
In Vitro Testing with Cytokine Endpoints	Client Specific
• Monolayer cells or tissue equivalents	
Other ELISA or Mechanistic Assays Routinely Performed	Client Specific

For additional information, protocols and prices, please contact Client Services at 215-536-4110 or mbinfo@mbresearch.com.