

BD Gentest Vesicle Assay Kits

MRP/BCRP and BSEP Reagent Kits for ABC Transporter Vesicle Assays

MRP/BCRP and BSEP Reagent Kits for ABC Transporter Vesicle Assays. The BD Gentest™ vesicle assay kits are flexible, complete reagent kits delivering consistency across lots for testing all BD human and animal ABC transporter vesicles with two simple protocols; one for MRP/BCRP and one for BSEP, and aligned with industry guidance recommendations.

Features

- Supports FDA-recommended BCRP, and EMA-recommended BSEP, as well as MRP vesicle panel.
- Provides two simple protocols to accommodate human and animal ABC transporter vesicle studies; one for MRP/BCRP and one for BSEP.
- Delivers maximum flexibility allowing researchers the ability to perform a single transporter study or both MRP and BCRP studies with one kit.
- Supports high-volume cell harvester applications with bulk wash buffers available separately (10X wash buffer for MRP/BCRP and 10X wash buffer for BSEP).
- Provides researchers an alternative to radiolabeled compounds with included CDCF fluorescent substrate for MRP2/MRP3 transporters.
- Saves researchers time by eliminating reagent preparation steps; assays can be completed within one day.
- Supports multiple time usage with robust, stable reagents accommodating up to six freeze-thaw cycles.

Kit supports industry guidance recommendations for ABC transporters

The kit supports International Transporter Consortium (ITC)¹ and European Medicines Agency (EMA)² recommended BCRP and BSEP in vitro transporter studies. ATP, AMP, and other essential reagents included in this kit are aligned with the ITC transporter white paper published in March 2010.¹

Physiological, well documented substrates were selected for easy literature comparison when determining whether a new chemical entity (NCE) is a substrate or inhibitor of BCRP, MRP, or BSEP: Estrone-3-Sulfate (BCRP substrate), Leukotriene C₄ (MRP1/MRP2 substrate), Estradiol-17β-D-Glucuronide (MRP3 substrate), Taurocholic Acid (BSEP substrate)

¹ International Transporter Consortium (ITC) Drug Transporter Guidance Paper, Nature Reviews/ Drug Discovery MARCH 2010 | VOLUME 9 (www.nature.com/reviews/drugdisc)

² European Medicines Agency: Guideline on the Investigation of Drug Interactions, DRAFT, April 2010

Fluorescent substrate for MRP2/MRP3 vesicle provides an alternative to radiolabeled compounds

CDCF (5(6)-Carboxy-2, '7'-Dichlorofluorescein) is a well-characterized fluorescent substrate for MRP2/MRP3. Using CDCF to identify MRP2 and MRP3 inhibitors eliminates the need for radiolabeled compounds and the waste removal and radiation license requirements associated with their use.

Provides a high degree of reagent lot-to-lot consistency

Three MRP/BCRP and three BSEP kit lots were evaluated for lot-to-lot consistency using the same hMRP2, hBCRP, and hBSEP vesicle lots and the results obtained demonstrated reproducibility within experimental uncertainty (see Figure 1/Table 1).

Flexible and stable format with two kits, two protocols for all BD human and animal transporter vesicles

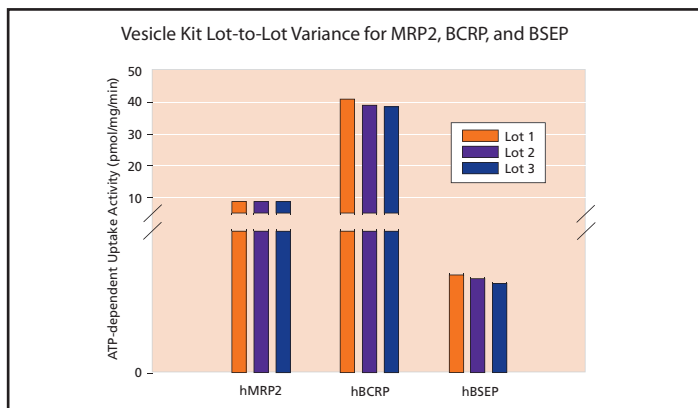
Designed for maximum flexibility and researcher convenience, one vesicle protocol accommodates human and animal BCRP/MRP and another supports BSEP studies. The kits accommodate up to 200 assays. The stability of both kits were validated for up to six freeze-thaw cycles with no significant loss in activity (see Figure 2).

Visit bdbiosciences.com/admetox for more information.



BD Gentest Vesicle Assay Kit

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hMRP2 (LTC ₄)	Ave (pmol/mg/min)		S-N	S/N
	ATP	No ATP		
Lot 1	9.7	1.2	8.5	8.2
Lot 2	9.6	1.0	8.6	9.4
Lot 3	9.6	0.9	8.7	10.4
CV%			0.8%	12.0%

hBCRP (E3S)	Ave (pmol/mg/min)		S-N	S/N
	ATP	No ATP		
Lot 1	51.5	10.8	40.7	4.8
Lot 2	52.2	13.2	39.0	4.0
Lot 3	50.4	11.9	38.5	4.2
CV%			3.0%	9.6%

hBSEP (TCA)	Ave (pmol/mg/min)		S-N	S/N
	ATP	No ATP		
Lot 1	1.6	0.3	1.4	6.5
Lot 2	1.6	0.3	1.3	6.3
Lot 3	1.6	0.3	1.3	5.0
CV%			4.6%	13.6%

Figure 1/ Table 1

S-N: Signal minus noise (ATP-dependent uptake activity)

S/N: Signal-to-noise ratio

CV measured as S-N and S/N ratios for three MRP/BCRP kit lots or BSEP kit lots demonstrated excellent lot-to-lot consistency.

Three replicates were used for each vesicle.

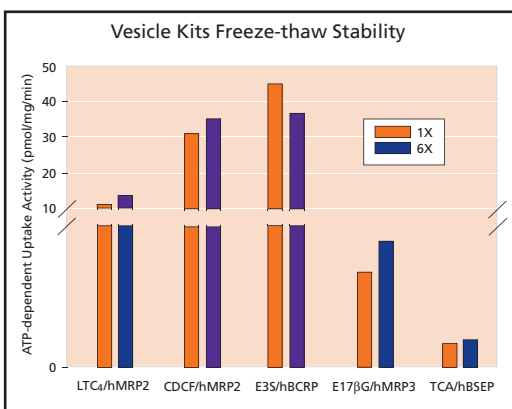


Figure 2. BD Gentest MRP/BCRP and BSEP vesicle assay kits were stable after six freeze-thaw cycles. The loss of ATP-dependent uptake of probe substrates was less than 20% after six freeze-thaw cycles. One batch of the corresponding ABC transporter vesicles was used in this experiment.

Order Information

BD Gentest™ MRP/BCRP Vesicle Assay Kit

Kit contains reagents for 200 assays

Description	Qty.	Cat.No.
<ul style="list-style-type: none"> Assay Uptake Buffer 10 X Wash Buffer 200 mM ATP 200 mM AMP 300mM GSH MRP3 Substrate BCRP Substrate MRP2/MRP3 Fluorescent Substrate MRP1/MRP2 Substrate 	1 kit	459010

BD Gentest BSEP Vesicle Assay Kit

Kit contains reagents for 200 assays

Description	Qty.	Cat.No.
<ul style="list-style-type: none"> Assay Uptake Buffer 10 X Wash Buffer 200 mM ATP 200 mM AMP BSEP Substrate Blocking Buffer (50X) 	1 kit	459011

BD Gentest 10X Wash Buffers

Description	Qty.	Cat.No.
For MRP/BCRP Vesicle Assay, 500 mL	1 bottle	450600
For BSEP Vesicle Assay, 500 mL	1 bottle	450601

Related Products

Description	Cat.No.
BD Falcon™ clear 96-well assay plate	353075
BD Gentest ABC Transporter Vesicles	
MRP1/Mrp1 Human	453455
MRP1/Mrp1 Rat	453510
MRP2/Mrp2 Human	453450
MRP2/Mrp2 Rat	453523
MRP3 Human	453520
BCRP/Bcrp Human	453271
BCRP/Bcrp Rat	453345
BCRP/Bcrp Mouse	453252
BSEP/Bsep Human	453502
BSEP/Bsep Rat	453501
Control	453500
BD GentestSM Contract Research Services	
ABC Transporter Studies <ul style="list-style-type: none"> ATPase assay in membranes Functional assays in vesicles 	Contact your local rep to discuss.

U.S. Orders

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Purchase Orders should be made out to:

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