ANTIBODY NEWSLETTER

Winter 2015

Acris Antibodies and OriGene Technologies: A new Force in the EU Life Science Market

Dear valued customer,

I founded Acris Antibodies in February 1998 with the idea to serve the antibody users by developing an easy to use internet platform to search for the best or most useful antibodies for their respective applications.
17 years later Acris Antibodies offers more than 300,000 antibodies and other antibody related products on websites for Europe, US and Asia. In 2011, Acris opened a branch office in San Diego. During the last year Acris Antibodies and OriGene Technologies discussed a possible co-operation in Europe. The result was that effective by September 2015 OriGene acquired Acris Antibodies to combine our strengths. OriGene Technologies with their huge product line in molecular biology and more than 12,000 monoclonals developed in their labs and Acris Antibodies with additional 50,000 Acris branded antibodies and ›200,000 distributed antibodies and proteins are now a new force in the EU Life Science Market. I would like to say a big "Thank You" to all of our loyal customers during the last 17 years and I look forward to a new era for Acris Antibodies as a part of OriGene Technologies.

Dr. Hans-Joachim Soll
Founder of Acris Antibodies

OriGene Technologies

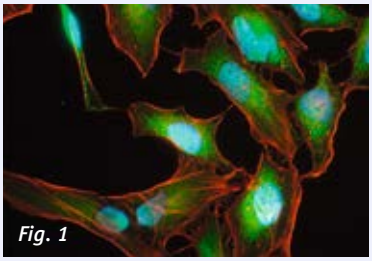
OriGene Technologies was founded 1995 as a research tool company focused on the creation of the largest commercial collection of full-length human cDNAs in a standard expression vector. OriGene Technologies uses a high-throughput, genome wide approach to develop products for pharmaceutical, biotechnology and academic research. The flagship product is the cDNA clone collection, a searchable gene bank of over 30,000 human full-length TrueClone cDNA collection and over 25,000 TrueORF cDNA clones. From these TrueORF cDNA clones, they have developed the largest offering of full length human proteins expressed in mammalian cells, ideal for functional studies. In 2010, OriGene initiated the TrueMAB project to develop mouse monoclonal antibodies against protein antigens with the goal to provide protein assays for every human protein. OriGene is committed to its mission to be "Your Gene Company", in supplying everything a researcher needs for gene based research.

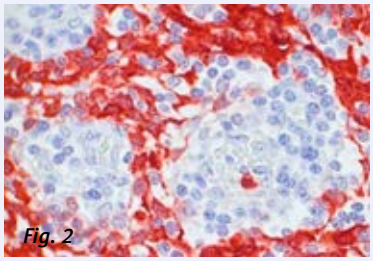
TrueMAB™ & UltraMAB™

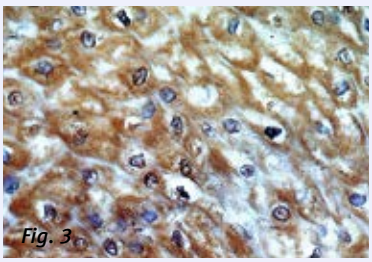
TrueMAB™ monoclonal antibodies were generated using recombinant human proteins as antigens (mostly full-length proteins expressed in human cell lines) that were affinity purified under native conditions to preserve the protein conformations. In comparison to peptide-derived antibodies, TrueMAB monoclonal antibodies provide high sensitivity and specificity for the recognition of native epitopes appearing on the protein conformational structures. They are great tools for immunoassays that are sensitive to proteins' conformations, such as immunofluorescence, immunoprecipitation, flow cytometry, ELISA, immunohistochemistry, high content screening (HCS), antibody arrays and more.

To ensure the superior performance, OriGene validates every **UltraMAB®** monoclonal antibody according to the scientific findings and the medical records of related diseases. Major applications of validation include WB, IHC staining with over 25 types of normal and cancer human tissues, IF/ICC, and FACS. Additionally, UltraMABs have also been tested for specificity on OriGene's high density protein microarray chip, spotted with 11,088 unique over-expressed proteins.

ORIGENE







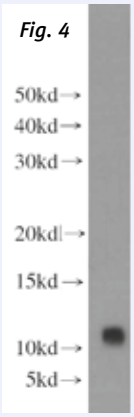


*Fig. 1: **MRP9** staining of HeLa cells using Cat.No.**UM800066** (in green,) at a dilution of 1:50. Actin filaments were labeled with AlexaFluor® 594 Phalloidin (red), and nuclear with DAPI (blue).*
*Fig. 2: **MRP8/14** stainig of paraffin-embedded human tonsil using Cat.No. **BM4025** at 1:200*
*Fig. 3: **MRP8** staining of paraffin-embedded human oesophagus using Cat.No. **15792-1-AP** at dilution of 1:100*
*Fig. 4: **MRP8** detection via western blot in COLO 320 cells with Cat.No. **15792-1-AP** at dilution of 1:300*

Migration inhibitory factor related protein 8 (MRP8) also known as S100 calcium-binding protein A8 (S100A8) or Calgranulin A and **migration inhibitory factor related protein 14** (MRP14) also known as S100 calcium-binding protein A9 (S100A9) or Calgranulin B are members of the S100 family of proteins containing 2 EF hand calcium binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members.
S100A9 together with S100A8 forms a heterodimeric protein complex called Calprotectin, which is a major calcium- and zinc-binding protein in the cytosol of neutrophils, monocytes, and keratinocytes. Complexes of S100A8 and S100A9 are the physiologically relevant forms of these proteins.

S100A9 may function in the inhibition of casein kinase and altered expression of this protein is associated with the disease cystic fibrosis.
Its expression and potential cytokine-like function in inflammation and in cancer suggest that S100A8/A9 may play a key role in inflammation-associated cancer.

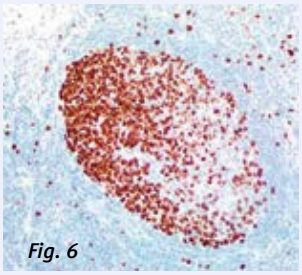
Calgranulin

Name	Reactivity	Application	Cat.No.
S100A8 / Calgranulin-A / MRP8	Hu, Ms	E, P, WB	15792-1-AP
S100A8 / Calgranulin-A / MRP8	Hu	C, E, P, WB	BM4028
S100A9 / Calgranulin-B / MRP14	Hu	P, WB	TA804091
S100A9 / Calgranulin-B / MRP14	Hu	P, ICC/IF	UM800066
S100A9 / Calgranulin-B / MRP14	Hu	P	UM800067
S100A9 / Calgranulin-B / MRP14	Hu	C, E, F, P	BM4026
S100A9 / Calgranulin-B / MRP14	Hu	C, E, F, P, WB	BM4027
S100A9 / Calgranulin-B / MRP14	Hu	E, P, WB	14226-1-AP
MRP8/14 (S100A8/A9)	Hu	C, E, P	BM4025

Hu: Human, Ms: Mouse, C: Frozen sections, E: ELISA, F: Flow Cytometry, ICC/IF: Immunocytochemistry / Immunofluorescence, P: Paraffin sections, WB: Western Blot

Calgranulin · Ki-67 · EPCAM

Ki-67 is a 360 kDa protein and the prototypic cell cycle related nuclear protein, expressed by proliferating cells in all phases of the active cell cycle (G1, S, G2 and M phase). In G1 phase the Ki-67 antigen is predominantly localized in the perinucleolar region, in the later phases of the cell cycle the antigen is also detected throughout the nuclear interior, being mainly found in the nuclear matrix. In mitosis, the Ki-67 antigen is present on all chromosomes and appears in a reticulate structure surrounding the metaphase chromosomes. In contrast to many other cell cycle associated proteins like PCNA, the Ki-67 antigen is consistently absent in quiescent cells (G0) and is not detectable during DNA repair processes. Thus, the presence of the Ki-67 antigen is strictly associated with the cell cycle and confined to the nucleus, suggesting an important role of this structure in the maintenance and/or regulation of the cell division cycle.



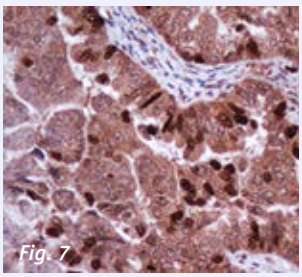
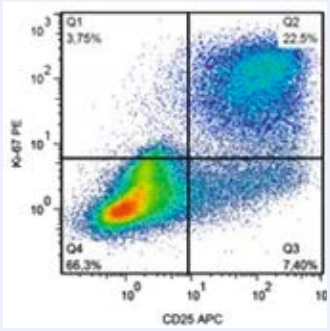


*Fig. 6: **Ki-67** staining of paraffin-embedded normal human tonsil tissue using Cat.No. **UM800033** at 1ug/ml.*
*Fig. 7: **Ki-67** staining of paraffin-embedded Adenocarcinoma of Human ovary tissue using Cat.No. **TA800648**.*

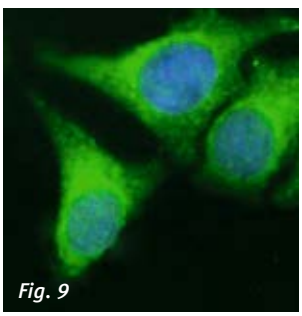
*Fig. 5: Flow cytometry analysis of human peripheral blood mononuclear cells stimulated with PHA. Surface staining of CD25 with Cat.No. SM3015APC was followed by permeabilization and nuclear staining of **Ki-67** with Cat.No. **AM01167RP-N**.*



Ki-67			
Cat.No.	**Clone**	**Reactivity**	**Application**
TA800648	OTI8H5	Hu	P, WB
UM800033	UMAB107	Hu	P, WB, ICC/IF
DRM004	SP6	Hu, Rt	P, WB
AM01167PU-N	Ki-67	Hu, Bov	F, ICC/IF, WB
AM01167RP-N	Ki-67	Hu, Bov	F

Hu: Human, Rt: Rat, Bov: Bovine, E: ELISA, ICC/IF: Immunocytochemistry/Immunofluorescence, F: Flow Cytometry, P: Paraffin sections, WB: Western Blot

Epithelial cell adhesion molecule (EPCAM) is a 40kD cell surface antigen and classified as a type 1 transmembrane glycoprotein. It is expressed on the basolateral membrane of cells by the majority of epithelial tissues, with the exception of adult squamous epithelium and some specific epithelial cell types including hepatocytes and gastric epithelial cells. It is also expressed in undifferentiated pluripotent stem cells. EPCAM expression has been reported to be a possible marker of early malignancy, with expression being increased in tumor cells, and de novo expression being seen in dysplastic squamous epithelium. It is intricately linked with the cadherin-catenin pathway and hence the fundamental Wnt pathway responsible for intracellular signalling and polarity.



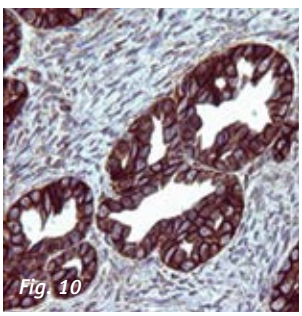


*Fig. 9: **EPCAM** immunofluorescent staining in HeLa cell susing Cat.No. **TA506619** at 1:100 dilution.*
*Fig. 10: **EPCAM** staining of paraffin-embedded adenocarcinoma of human ovary tissue using Cat.No. **TA506626** at 1:500 dilution.*

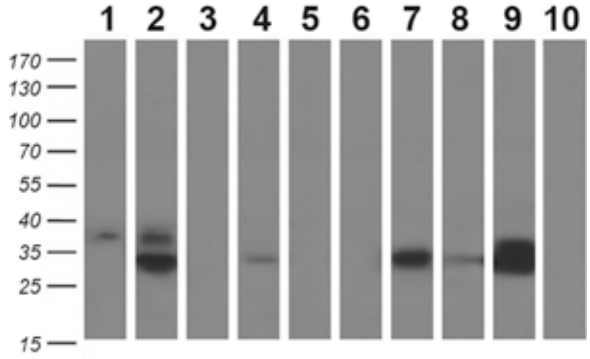


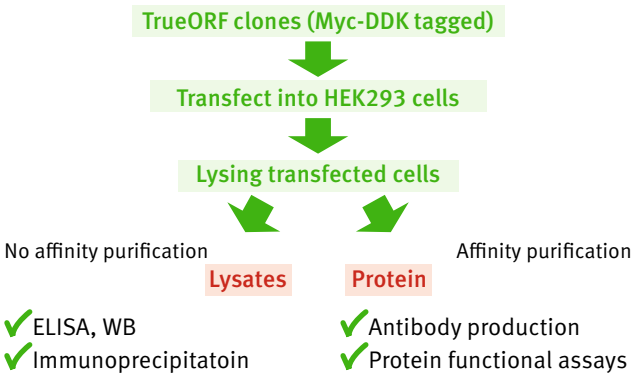
*Fig. 8: **EPCAM** western blot analysis of extracts (10ug) from 10 human tissues by using Cat.No. **UM500097** at 1:500 (1: testis; 2: omentum; 3: uterus; 4: breast; 5: brain; 6: liver; 7: ovary; 8: thyroid gland; 9: colon; 10: spleen)*

EPCAM			
Cat.No.	**Clone**	**Reactivity**	**Application**
TA506619	OTI1D4	Hu	ICC/IF, WB
TA506626	TA506626	Hu	F, ICC/IF, P, WB
UM500096	UMAB131	Hu	P, WB
UM500097	UMAB132	Hu	P, WB
BM2274*	HEA125	Hu	C, ICC/IF, P, WB
21050-1-AP	polyclonal	Hu, Ms. Rt	E, F, ICC/IF, P, WB

Hu: Human, Ms: Mouse, Rt: Rat, C: Frozen sections, E: ELISA, F: Flow Cytometry, ICC/IF: Immunocytochemistry /Immunofluorescence, P: Paraffin sections, WB: Western Blot **available in different sizes and formats*

ORIGENE Recombinant Proteins and Lysates

Powered by OriGene's extensive collection of TrueORF human cDNA clones, OriGene offers full-length purified human proteins expressed in HEK293 cells and crude over-expression cell lysates. C-terminal Myc-DDK tagged human ORF clones are transfected into HEK293 cells. The total crude cell lysates are over-expression lysates with the specific gene over-expressed. Recombinant human proteins are obtained by affinity purification against the DDK-tag under native conditions. This approach allows optimal preservation of protein structure as well as post-translational modification of the proteins.



Benefits of mammalian expressed proteins				
	Mammalian	**Yeast**	**Insect cells**	**E. coli**
protein folding and purification	optimal	poor	low	poor
post-translational processsing	yes	low	low	no
authenticity & bioactivity	native and active	poor	poor	very poor

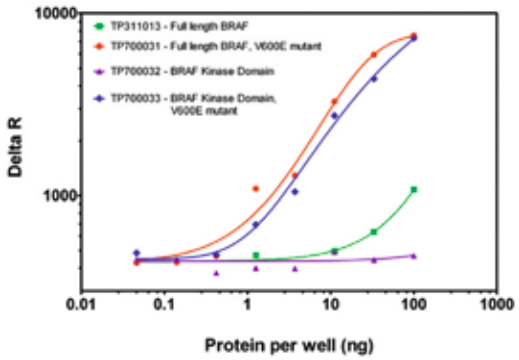


Fig. 11: ***BRAF kinase*** *was measured in HTRF® assay. Cat.No.* ***TP311013, TP700031, TP700032*** *and* ***TP700033*** *were produced in HEK293 cells.*

BRAF			
Name	**Cat.No.**	**Species**	**Source**
BRAF	TP311013	Hu	HEK293 cells
BRAF V600E mutant	TP700031	Hu	HEK293 cells
BRAF kinase domain	TP700032	Hu	HEK293 cells
BRAF kinase domain V600E mutant	TP700033	Hu	HEK293 cells
BRAF overexpression lysate	LY401382	Hu	HEK293 cells

Hu: Human

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