abcam

ab275389

Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23495-276
Purification technique	Affinity purification Protein A
Concentration	1.036 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Rat, Human, Recombinant full length protein - Human, Mouse
Dilution info	-

Notes	-

ChIP

Not recommended

Species	Human, Mouse, Rat, Recombinant full length protein - Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat, Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat, Mouse, Recombinant full length protein - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information EP300

Function

Functions as a histone acetyltransferase and regulates transcription via chromatin remodeling (PubMed:23415232, PubMed:23934153, PubMed:40240600, PubMed:8945521). Acetylates all four core histones in nucleosomes (PubMed:23415232, PubMed:23934153, PubMed:8945521). Histone acetylation gives an epigenetic tag for transcriptional activation (PubMed:23415232, PubMed:23934153, PubMed:8945521). Mediates acetylation of histone H3 at 'Lys-122' (H3K122ac), a modification that localizes at the surface of the histone octamer and stimulates transcription, possibly by promoting nucleosome instability (PubMed:23415232). Mediates acetylation of histone H3 at 'Lys-18' and 'Lys-27' (H3K18ac and H3K27ac, respectively) (PubMed:21131905, PubMed:23911289). Also able to acetylate histone lysine residues that are already monomethylated on the same side chain to form N6-acetyl-N6-methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation (PubMed:37731000). Catalyzes formation of histone H4 acetyl-methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively) (PubMed:37731000). In response to DNA damage, catalyzes acetylation of histone H1 at 'Lys-75' (H1K75ac) following histone H1 deamidation by CTPS1, increasing chromatin accessibility to facilitate the recruitment of DNA repair proteins (PubMed:40240600). Also functions as acetyltransferase for non-histone targets, such as ALX1, HDAC1, PRDM16, PRMT1, SIRT2, STAT3, ZNF76 or GLUL (PubMed:12929931, PubMed:15653507, PubMed:16285960, PubMed:16337145, PubMed:16762839, PubMed:18722353, PubMed:18782771, PubMed:26990986). Acetylates 'Lys-131' of ALX1 and acts as its coactivator (PubMed:12929931). Acetylates SIRT2 and is proposed to indirectly increase the transcriptional activity of p53/TP53 through acetylation and subsequent attenuation of SIRT2 deacetylase function (PubMed:18722353). Following DNA damage, forms a stress-responsive p53/TP53 coactivator complex with JMY which mediates p53/TP53 acetylation, thereby increasing p53/TP53-dependent transcription and apoptosis (PubMed:11511361, PubMed:15448695). Promotes chromatin acetylation in heat shock responsive HSP genes during the heat shock response (HSR), thereby stimulating HSR transcription (PubMed:18451878). Acetylates HDAC1 leading to its inactivation and modulation of transcription (PubMed:16762839). Acetylates 'Lys-247' of EGR2 (By similarity). Acts as a TFAP2A-mediated transcriptional coactivator in presence of CITED2 (PubMed:12586840). Plays a role as a coactivator of NEUROD1-dependent transcription of the secretin and p21 genes and controls terminal differentiation of cells in the intestinal epithelium. Promotes cardiac myocyte enlargement (PubMed:14752053). Can also mediate transcriptional repression. Acetylates FOXO1 and enhances its transcriptional activity (PubMed:15890677). Acetylates STAT3 at different sites, promoting both STAT3 dimerization and activation and recruitment to chromatin (PubMed:15653507, PubMed:16285960, PubMed:18782771). Acetylates BCL6 which disrupts its ability to recruit histone deacetylases and hinders its transcriptional repressor activity (PubMed:12402037). Participates in CLOCK or NPAS2-regulated rhythmic gene transcription; exhibits a circadian association with CLOCK or NPAS2, correlating with increase in PER1/2 mRNA and histone H3 acetylation on the PER1/2 promoter (PubMed:14645221). Acetylates MTA1 at 'Lys-626' which is essential for its transcriptional coactivator activity (PubMed:16617102). Acetylates XBP1 isoform 2; acetylation increases protein stability of XBP1 isoform 2 and enhances its transcriptional activity (PubMed:20955178). Acetylates PCNA; acetylation promotes removal of chromatin-bound PCNA and its degradation during nucleotide excision repair (NER) (PubMed:24939902). Acetylates MEF2D (PubMed:21030595). Acetylates and stabilizes ZBTB7B protein by antagonizing ubiquitin conjugation and degradation,

this mechanism may be involved in CD4/CD8 lineage differentiation (PubMed:20810990). Acetylates GABPB1, impairing GABPB1 heterotetramerization and activity (By similarity). Acetylates PCK1 and promotes PCK1 anaplerotic activity (PubMed:30193097). Acetylates RXRA and RXRG (PubMed:17761950). Acetylates isoform M2 of PKM (PKM2), promoting its homodimerization and conversion into a protein kinase (PubMed:24120661). Acetylates RPTOR in response to leucine, leading to activation of the mTORC1 complex (PubMed:30197302, PubMed:32561715). Acetylates RICTOR, leading to activation of the mTORC2 complex (PubMed:22084251). Mediates cAMP-gene regulation by binding specifically to phosphorylated CREBBP (PubMed:8917528). In addition to protein acetyltransferase, can use different acyl-CoA substrates, such as (2E)-butenoyl-CoA (crotonyl-CoA), butanoyl-CoA (butyryl-CoA), 2-hydroxyisobutanoyl-CoA (2-hydroxyisobutyryl-CoA), lactoyl-CoA, propanoyl-CoA (propionyl-CoA) or isonicotinyl-CoA, and is able to mediate protein crotonylation, butyrylation, 2-hydroxyisobutyrylation, lactylation, propionylation or isonicotinylation, respectively (PubMed:17267393, PubMed:25818647, PubMed:29775581, PubMed:31645732, PubMed:34545082). Acts as a histone crotonyltransferase; crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors (PubMed:25818647). Histone crotonyltransferase activity is dependent on the concentration of (2E)-butenoyl-CoA (crotonyl-CoA) substrate and such activity is weak when (2E)-butenoyl-CoA (crotonyl-CoA) concentration is low (PubMed:25818647). Also acts as a histone butyryltransferase; butyrylation marks active promoters (PubMed:17267393). Catalyzes histone lactylation in macrophages by using lactoyl-CoA directly derived from endogenous or exogenous lactate, leading to stimulates gene transcription (PubMed:31645732). Acts as a protein-lysine 2-hydroxyisobutyryltransferase; regulates glycolysis by mediating 2-hydroxyisobutyrylation of glycolytic enzymes (PubMed:29775581). Functions as a transcriptional coactivator for SMAD4 in the TGF-beta signaling pathway (PubMed:25514493). (Microbial infection) In case of HIV-1 infection, it is recruited by the viral protein Tat. Regulates Tat's transactivating activity and may help inducing chromatin remodeling of proviral genes. Binds to and may be involved in the transforming capacity of the adenovirus E1A protein.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab275389 is the carrier-free version of ab275379.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The CREBBP and p300 also known as KAT3B are essential transcriptional coactivators. Mechanically they function as acetyltransferases adding acetyl groups to histones which leads to the relaxation of chromatin structure and the activation of gene transcription. This process is critical for transcription regulation in eukaryotic cells. CREBBP has a molecular weight of approximately 265 kDa and is expressed in various tissues throughout the body including the heart lung and brain. Both of them possess bromodomain functions important for recognizing acetyl-lysine residues.
Biological function summary	CREBBP and p300 operate by interacting with a wide array of transcription factors and serve as scaffold proteins. They facilitate the assembly of large multiprotein complexes necessary for efficient initiation elongation or termination of transcription. Through acetylation these proteins modulate the activity of over 400 target proteins influencing diverse cellular processes like cell growth differentiation and repair. As part of the transcriptional activation complex CREBBP and p300 also acetylate non-histone proteins affecting their stability and function.
Pathways	CREBBP and p300 play pivotal roles in pathways such as the Notch signaling and the cAMP response element-binding protein (CREB) pathway. In the CREB pathway they interact with CREB to enhance the transcription of genes essential for neuronal activity and plasticity. In the Notch signaling pathway they contribute to cell fate decisions in developmental processes. These proteins collaborate with other histone acetyltransferases to maintain the dynamic regulation of gene expression.

Associated diseases and disorders	Defects or mutations in CREBBP and p300 associate with Rubinstein-Taybi syndrome (RSTS) and certain cancers such as gastric cancer. In RSTS haploinsufficiency of the protein results in a range of developmental abnormalities due to impaired transcriptional regulation. In cancers abnormal acetyltransferase activity alters cell cycle regulation and apoptosis contributing to tumorigenesis. Their interaction with tumor suppressors and oncogenes highlights their integral role in maintaining cellular homeostasis and disease prevention.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

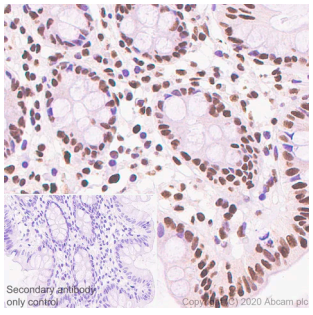
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

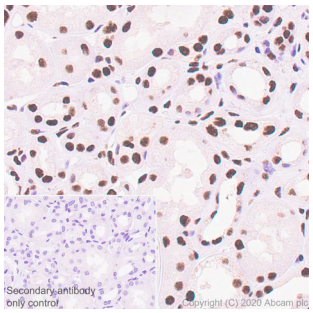
CREBBP + KAT3B / p300 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling KAT3B/p300+CREBBP with ab275379 at 1/5000 (0.093 ug/ml) dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human colon

(PMID: 28586030). The section was incubated with ab275379 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.

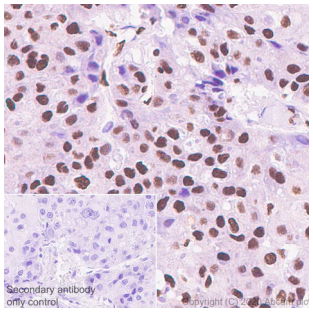


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling KAT3B/p300+CREBBP with ab275379 at 1/5000 (0.093 ug/ml) dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human kidney (PMID: 28551630). The section was incubated with ab275379 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



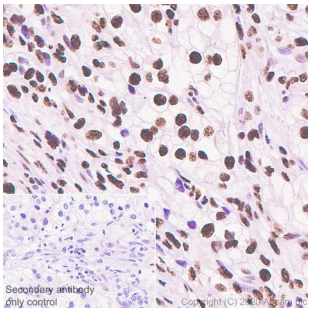
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

CREBBP + KAT3B / p300 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human hepatocellular carcinoma tissue labeling KAT3B/p300+CREBBP with ab275379 at 1/5000 (0.093 ug/ml) dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human hepatocellular carcinoma (PMID: 32144235). The section was incubated with ab275379 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



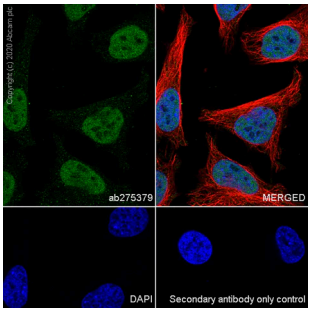
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

CREBBP + KAT3B / p300 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human clear cell renal cell carcinoma tissue labeling KAT3B/p300+CREBBP with ab275379 at 1/5000 (0.093 ug/ml) dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human clear cell renal cell carcinoma (PMID: 28551630). The section was incubated with ab275379 for 10 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.

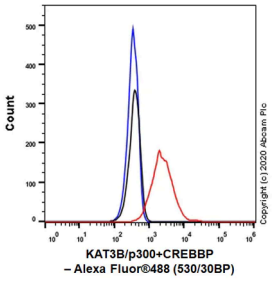


Immunocytochemistry/ Immunofluorescence - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

CREBBP + KAT3B / p300 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa cells labelling KAT3B/p300+CREBBP with ab275379 at 1/100 (4.67 ug/ml) dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear and weakly cytoplasmic staining in HeLa cell line. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

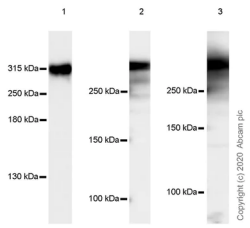


Flow Cytometry (Intracellular) - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

CREBBP + KAT3B / p300 Flow Cytometry (Intracellular) staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling KAT3B/p300+CREBBP with ab275379 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

A Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

CREBBP + KAT3B / p300 Western blot staining using rabbit Anti-CREBBP + KAT3B / p300 antibody

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID: 8995708).

Lysates were made freshly and used in WB immediately to minimize protein degradation.

Exposure times: Lane 1: 48 seconds; Lane 2: 70 seconds; Lane 3: 59 seconds.

All lanes:
Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] (ab275379) at 1/1000 dilution

Lane 1:
K-562 (human chronic myelogenous leukemia lymphoblast) whole cell lysate at 20 µg

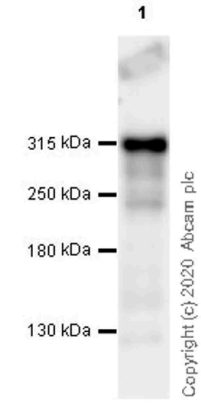
Lane 2:
RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 300 kDa



Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The molecular weight observed is consistent with what has been described in the literature (PMID: 8995708).

Lysate was made freshly and used in WB immediately to minimize protein degradation.

Exposure time: 32 seconds.

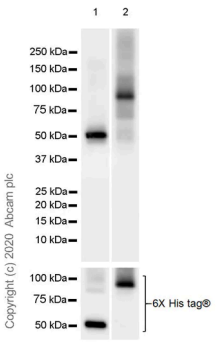
All lanes:
Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] (ab275379) at 1/1000 dilution

All lanes:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
VeriBlot for IP secondary antibody(HRP)(ab131366) at 1/5000 dilution

Observed band size: 300 kDa



Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] - BSA and Azide free (ab275389)

This data was developed using ab275379, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This product can recognize both KAT3B/p300 and CREBBP.

Exposure time: 3 seconds.

All lanes:
Western blot - Anti-CREBBP + KAT3B / p300 antibody [EPR23495-276] (ab275379) at 1/1000 dilution

Lane 1:
His-tagged human KAT3B/p300 recombinant protein, 20 ng

Lane 2:
His-tagged human CREBBP recombinant protein, E. coli extract, 20 ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.