Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for B304

Normal Goat Serum (NGS)

Overview

Description:	Normal Goat Serum (NGS) - B304
Item No.:	B304
Size:	10 mL
Applications:	SDS-PAGE, ChIP, IF, IHC, Multiplex
Origin:	Goat

Product Details

Background:	Goat Serum blocking reagent or NGS can be used as a blocking agent to treat plastic surfaces, membrane or tissue after they have been sensitized with primary antibody or antigen. It provides an alternative to bovine serum albumin (BSA) and non-fat dry milk. It is effective in reducing nonspecific binding of proteins to reaction surfaces, thereby maximizing signal-to-noise ratio. This blocking agent is recommended for use in immunoassays where the primary antibody was produced in goat, as a source of non-specific serum protein or on tissue for immunohistochemical applications.
Synonyms:	blocking goat serum, blocking grade goat serum, 10% NGS, normal goat serum, goat serum blocking buffer
Species of Origin:	Goat

Target Details

Purity/Specificity:	Goat Serum blocking reagent or NGS was prepared from normal serum by a multi-step process which includes delipidation and selective precipitation. Assay by immunoelectrophoresis resulted in a multiple precipitin arcs against anti-Goat Serum. Normal Goat Serum was obtained from non-immunized healthy goats.
Relevant Links:	• B304-SDS

Application Details

Tested Applications:	SDS-PAGE

Suggested Applications:	ChIP, IF, IHC, Multiplex (Based on references)
Application Note:	Goat Serum blocking reagent or NGS has been tested by SDS-PAGE and is ideal for blocking procedures such as Western blotting, ELISA and immunochemistry to prevent nonspecific binding.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
FC:	User Optimized
FLISA:	User Optimized
IF:	User Optimized
IHC:	User Optimized
IP:	User Optimized
WB:	User Optimized

Formulation

Physical State:	Lyophilized
Concentration:	105 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide and 0.01% (w/v) Gentamicin Sulfate
Stabilizer:	None
Reconstitution Volume:	10 mL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

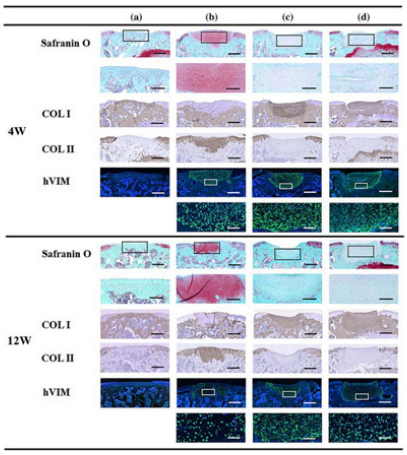
Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	Store normal goat serum at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

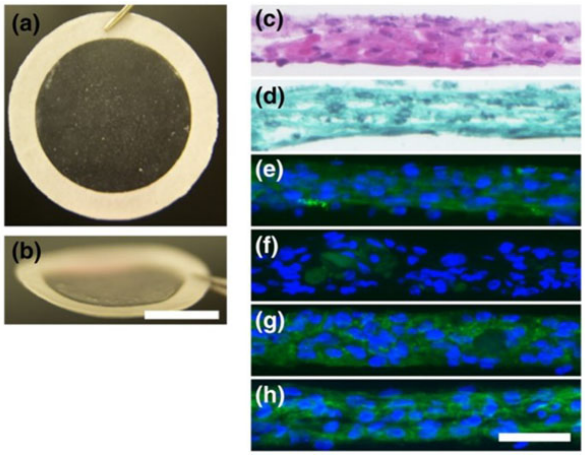


Bottle
Normal Goat Serum (NGS)



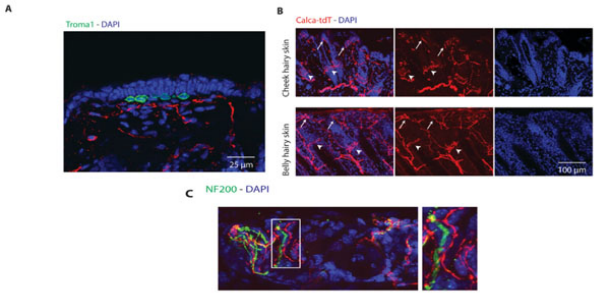
Immunohistochemistry

Representative microscopic images from the histological and immunohistochemical analyses. Frozen sections were blocked with 5% normal goat serum (NGS, p/n B304). Group A, untreated; Group B, LC sheet containing 5.0 × 105 cells alone; Group C, SY sheet containing 5.0 × 105 cells alone; and Group D, SY sheet plus LC sheet, each containing 5.0 × 105 cells. For each group, n = 6. Four weeks after transplantation in Groups B, C, and D, the defects were filled with repaired tissue. Histological analysis of Group A revealed no Safranin O staining or formation of a chondral layer but revealed bone-like tissue or fibrous tissue. In Group B, strong Safranin O staining was observed. In Groups C and D, no Safranin O staining was observed. Immunohistochemical analysis revealed negative staining for COL II and hVIM in Group A, positive staining for COL II and hVIM in Group B, and positive staining for COL I and hVIM in Groups C and D. At 12 weeks after transplantation, the defects in Groups B, C, and D, in which transplantation was performed, were filled with repaired tissue. Histological analysis of Group A revealed no Safranin O staining or formation of a chondral layer but revealed bone-like tissue. In Group B, strong Safranin O staining was observed. In Groups C and D, no Safranin O staining was observed. Immunohistochemical analysis revealed negative staining for COL II and hVIM in Group A, positive staining for COL II and hVIM and partial staining for COL I in Group B, and positive staining for COL I and hVIM in Groups C and D. Low-power images of Safranin O, COL I, COL II, and hVIM staining are shown in the upper rows (scale bar = 500 µm). High-power images of Safranin O and hVIM are shown in the lower rows (scale bar of Safranin O = 200 µm, scale bar of hVIM = 50 µm). LC: layered chondrocyte; SY: synoviocyte; COL I: type I collagen; COL II: type II collagen; hVIM: human vimentin. Fig 3. PMID: 32652894.



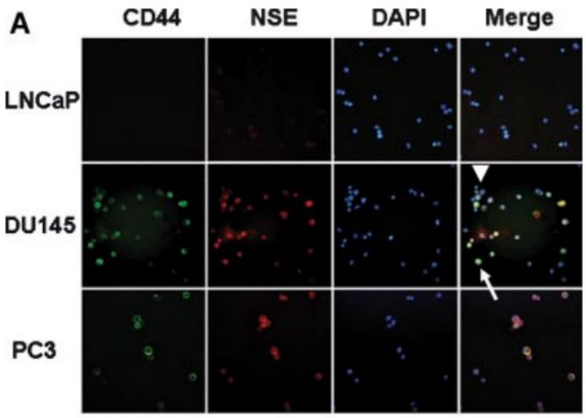
Immunohistochemistry

Representative macrographs and micrographs of TKA sheets. (a) Macrograph of a TKA sheet attached to a PVDF support membrane and (b) the same thin sheet seen from an angle. Scale bar = 1 cm. Histological analysis of sections of layered chondrocyte sheets stained with (c) HE and (d) Safranin O. Immunohistochemical analysis revealed (e) positive staining for COL1, (f) slight staining for COL2, (g) positive staining for ACAN, and (h) positive staining for FN. Scale bar = 50 µm. TKA sheets were fixed in 4% paraformaldehyde in phosphate buffer and embedded in optimal cutting temperature compound. Twenty-micrometre-thick sections were stained with haematoxylin and eosin (HE) or with Safranin O, Fast Green, and HE. For immunohistochemical analysis, 10-µm sections were blocked with 5% normal goat serum (NGS; p/n B304) and 0.3% Triton X-100 in phosphate buffer for 30 min. The sections were then incubated with primary antibodies (COL1; dilution 1:200); (COL2; dilution 1:200); (ACAN; dilution 1:10); or (FN; dilution 1:500) at 4°C overnight. ACAN: aggrecan; COL1: Type I collagen; COL2: Type II collagen; FN: fibronectin; HE: haematoxylin and eosin; TKA: total knee arthroplasty; PVDF: polyvinylidene difluoride. Figure 1. PMID: 30058138.

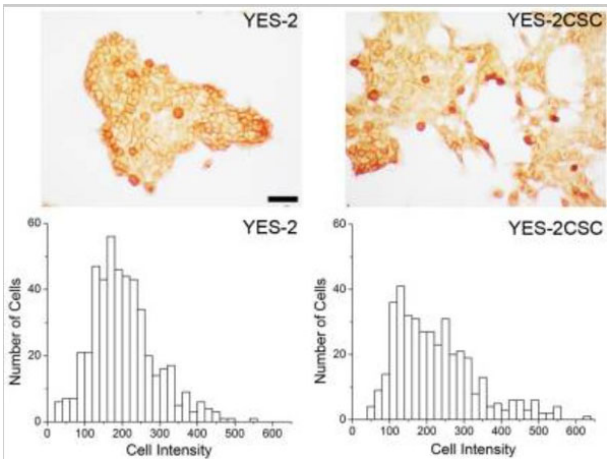


Immunofluorescence Microscopy

Calca-tdT neurons produce circumferential endings around hair shafts and free nerve endings in hairy skin independent of merkel cells. Hair from the skin of the back of mice was removed using a depilatory cream, and cut into square pieces of approximately 5 mm × 5 mm. The tissues were fixed in 4% PFA in PBS at 4 °C for 3–5 days. After a PBS wash, tissues were mounted in OCT medium, and sectioned at 80–90 µm on a cryostat. Skin sections were rinsed in PBS and incubated in blocking buffer (5% goat serum [p/n B304]; 0.5% Triton-X100) for 3 hours at room temperature. Sections were incubated in primary antibodies in blocking buffer at 4°C overnight. Sections were rinsed and incubated overnight in AlexaFluor conjugated secondary antibodies. (A) Immunostaining for Troma-1 (green) shows Calca labeling is independent of merkel cells. (B) Images of hairy skin from the cheek (top) and belly (bottom) from Calca-tdT mice. Calca circumferential endings (arrow heads) wrap around hair shafts while free nerve endings (arrows) are found in more superficial layers. (C) Calca-tdT free nerve endings are NF200-negative. Figure S6. PMID: 28817806.



Immunofluorescence Microscopy
Co-expression of NSE and CD44in human prostate cancer cell lines. A:Immunofluorescence studies on cytospin samples with antibodies against CD44,NSE (with DAPI staining nuclei) show co-expression of CD44 and NSE in the same cells. LNCaP cells are double negative for the two markers and PC3 cells are double positive.ThemajorityofDU145cellsaredoublepositive (arrow) but a minority are double negative (arrowhead) (magnification 400).
Cytospin preparations of PC cells were fixed in methanol for 10 min at 20C, rehydrated in PBS, and blocked in 5% normal goat serum (p/n B304) for 30 min. The slides were incubated with antibodies against CD44 (at 1:200) and neuron-specific enolase (NSE at 1:50) overnight at 4C followed by incubation with secondary antibodies (goat anti-rat IgG FITC and Alexa Fluor 546 goat anti-mouse) for 40 min at room temperature.
Fig 3. PMID: 19189306.



Immunocytochemistry
CD44 immunocytochemistry. Above: CD44-stained cells are visible in YES-2 and in the YES-2CSC line which has high-Aldefluor staining as selected by FACS.
The cells were fixed with methanol for 5 min, washed with PBS three times, exposed to 0.3% hydrogen peroxide for 3 min, and rinsed three times with PBS. The cells were then incubated with normal goat serum (NGS, p/n B304) at 1:100 dilution for 30 min at room temperature followed by mouse monoclonal anti-human CD44 antibody at 1:10 dilution for 2 hrs at room temperature. After three rinses with PBS, the cells were incubated with goat anti-mouse horseradish peroxidase-conjugated antibody at 1:40 dilution for 30 min and then exposed to ImmunPACT diaminobenzidine for 10 min.
Below: High CD44-staining cells are more abundant in the YES-2CSC line than in the YES-2 line. Scale bar = 100 µm.
Fig 3. PMID: 23983818.

References

- Kutsuzawa N et al. Dexamethasone restores TNFα-induced epithelial barrier dysfunction in primary rat alveolar epithelial cells. *PLoS One.* (2023)
- Xu NW, Dabiri JO. Low-power microelectronics embedded in live jellyfish enhance propulsion. *Sci Adv.* (2020)
- Weinberg F. et al. Anti-correlation of HER2 and focal adhesion complexes in the plasma membrane. *PLoS One.* (2020)
- Takizawa, D et al. Regenerative effects of human chondrocyte sheets in a xenogeneic transplantation model using immune-deficient rats. *Journal of Tissue Engineering and Regenerative Medicine* (2020)
- Molaei M et al. NF-κB shapes metabolic adaptation by attenuating foxo-mediated lipolysis in Drosophila. *Dev Cell.* (2019)
- Takahashi, T et al. Rabbit xenogeneic transplantation model for evaluating human chondrocyte sheets used in articular cartilage repair. *Journal of Tissue Engineering and Regenerative Medicine* (2018)
- Ghitani N, Barik A, Szczot M, et al. Specialized Mechanosensory Nociceptors Mediating Rapid Responses to Hair Pull. *Neuron.* (2017)
- Shah SH et al. Hierarchical paracrine interaction of breast cancer associated fibroblasts with cancer cells via hMAPK-microRNAs to drive ER-negative breast cancer phenotype. *Cancer Biol Ther.* (2015)
- Almanaa, TN et al. A new method for identifying stem-like cells in esophageal cancer cell lines. *Journal of Cancer* (2013)
- Papapattu GS et al. Selective expression of CD44, a putative prostate cancer stem cell marker, in neuroendocrine tumor cells of human prostate cancer. *Prostate.* (2009)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.