

# HR (P-16): sc-87153

## BACKGROUND

HR (protein Hairless) is a 1,189 amino acid protein which is expressed as 2 isoforms produced by alternative splicing. The two isoforms are expressed in a variety of tissues in varying concentrations. Isoform 1 is more abundant than isoform 2 and is expressed at low levels in kidneys and testis, while isoform 2 is expressed abundantly in skin. Both isoforms are also present together in many tissues and are expressed strongly in small intestine and brain and weakly in trachea. HR is thought to be a transcription factor involved in hair growth. Hair growth occurs in three phases known as anagen, catagen and telogen, which are phases where growth, regression and rest, respectively, are taking place. By unknown mechanisms, HR is thought to regulate one of the hair growth phases and to work with vitamin D receptor (VDR) to regulate hair follicle cycling. Defects in HR may cause two serious ailments, known as alopecia universalis congenita (ALUNC) and atrichia with papular lesions (APL), which is also referred to as congenital atrichia. Both are autosomally recessive impairments. ALUNC is a rare condition in which hair follicles are produced without hair, while APL is a serious disease in which papillary lesions may cover the body and little to no hair is grown.

## REFERENCES

- Potter, G.B., Beaudoin, G.M., DeRenzo, C.L., Zarach, J.M., Chen, S.H. and Thompson, C.C. 2001. The Hairless gene mutated in congenital hair loss disorders encodes a novel nuclear receptor corepressor. *Genes Dev.* 15: 2687-2701.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602302. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Djabali, K. and Christiano, A.M. 2004. Hairless contains a novel nuclear matrix targeting signal and associates with histone deacetylase 3 in nuclear speckles. *Differentiation* 72: 410-418.
- Bergman, R., Schein-Goldshmid, R., Hochberg, Z., Ben-Izhak, O. and Sprecher, E. 2005. The alopecias associated with vitamin D-dependent rickets type IIA and with Hairless gene mutations: a comparative clinical, histologic, and immunohistochemical study. *Arch. Dermatol.* 141: 343-351.
- Skorija, K., Cox, M., Sisk, J.M., Dowd, D.R., MacDonald, P.N., Thompson, C.C. and Demay, M.B. 2005. Ligand-independent actions of the vitamin D receptor maintain hair follicle homeostasis. *Mol. Endocrinol.* 19: 855-862.
- Zhang, J.T., Fang, S.G., Wang, C.Y. and Du, C.Y. 2005. Molecular cloning of full-long cDNA sequences encoding Hairless gene in the Kunming mouse. *Yi Chuan* 27: 908-914.
- Bikle, D.D., Elalieh, H., Chang, S., Xie, Z. and Sundberg, J.P. 2006. Development and progression of alopecia in the vitamin D receptor null mouse. *J. Cell. Physiol.* 207: 340-353.

## CHROMOSOMAL LOCATION

Genetic locus: HR (human) mapping to 8p21.3.

## SOURCE

HR (P-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of HR of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87153 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HR (P-16) is recommended for detection of HR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HR siRNA (h): sc-77654, HR shRNA Plasmid (h): sc-77654-SH and HR shRNA (h) Lentiviral Particles: sc-77654-V.

Molecular Weight of HR: 130 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
 Satisfaction  
 Guaranteed

Try **HR (A-11): sc-514686** or **HR (D-4): sc-398176**, our highly recommended monoclonal alternatives to HR (P-16).