

HPA Antibodies

Designed to have high specificity and to work in various application platforms

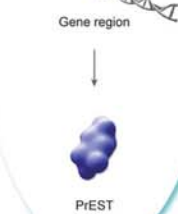
The Swedish Human Protein Atlas (HPA) program aims to unravel the human proteome by systematically mapping proteins to different human tissues

Mono-specific polyclonal antibodies (msAbs) are generated by stringent affinity-purification using recombinant protein epitope signature tags (PrESTs)

Each msAb is subjected to thorough validation comprising: 1) a protein microarray assay, 2) Western blot analysis, and 3) immunohistochemical analysis. The generated results are compared with bioinformatic- and published data, if available

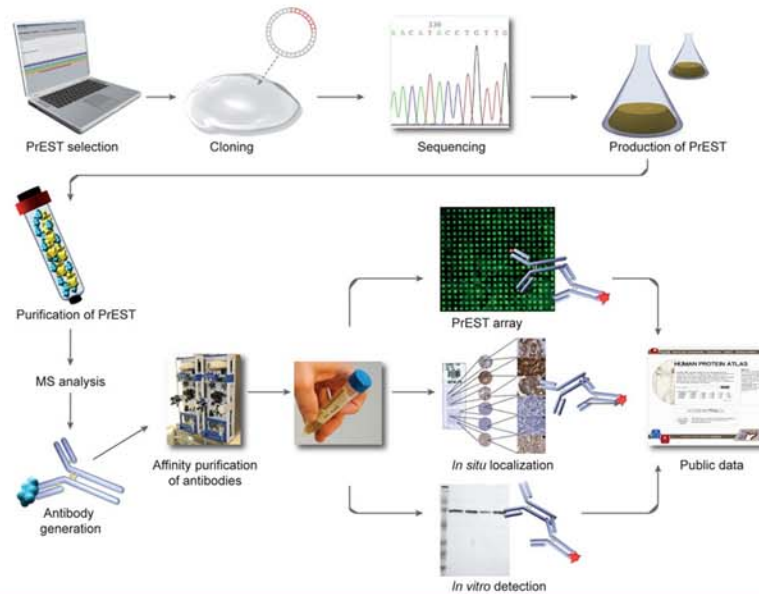
HPA antibodies have been used with great success in a number of additional applications such as immunofluorescence, protein target pullouts, antibody arrays, and flow cytometry

PrESTs acquire a dual function as both antigens upon immunization and affinity-ligands in the purification of the generated antibodies



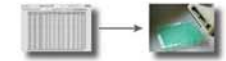
From target gene to highly validated antibody

HPA Antibodies are developed and validated by the HPA Program (www.proteinatlas.org)^{1,3,4}



Atlas Antibodies Performs complementary quality analyses on reagents leaving the HPA pipeline

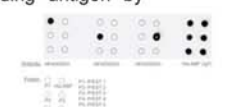
Total protein concentration determination and analysis by ELISA



Purity analysis by SDS-PAGE



Specificity control towards corresponding antigen by Dot-Blot



Additional Western blot analyses on selected panels comprising 15 different cell lines, normal- and cancer tissues



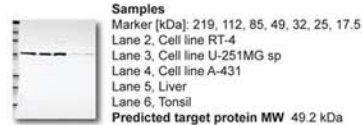
Examples of HPA Antibodies at Atlas Antibodies

Product name Anti-PSMC1
Product number HPA000872
Description 26S protease regulatory subunit 4 (P26s4, Proteasome 26S subunit ATPase 1)

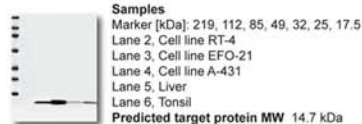
PrEST array analysis to ensure binding specificity²



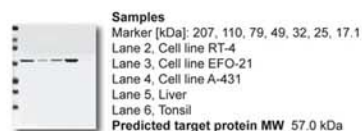
Tissue Western blot analysis to verify proper target recognition²



Product name Anti-LGALS1
Product number HPA000646
Description Galectin-1 (Beta-galactoside-binding lectin L-14-I, Lactose-binding lectin 1, S-Lac lectin 1, Galaplin, 14 kDa lectin, HPL HBL, Putative MAPK-activating protein MP12)



Product name Anti-NP_071381.1
Product number HPA000527
Description No description available in Ensembl



Immunohistochemical (IHC) analyses to determine tissue localizations and expression patterns⁵

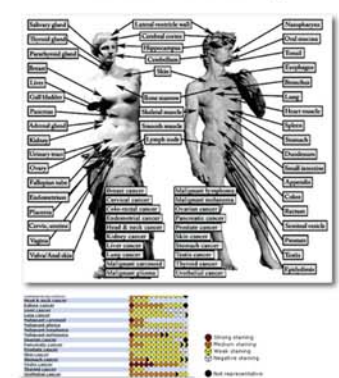
Staining patterns in different human tissues are systematically annotated and curated by certified pathologists in order to characterize the antibodies

The images on the right show a selection of tissues and cell types, in which the respective antibody exhibits the strongest staining intensities

All IHC images are publicly available on www.proteinatlas.org



Immunohistochemistry



The immunohistochemical platform within the HPA program constitutes 48 types of normal human tissues from three different individuals, and duplicate samples from malignant tumors representing the 20 most common human cancer types from four to 12 patients⁵

References

1. Persson A. et al. 2006. A human protein atlas based on antibody proteomics. *Curr. Opin. Mol. Ther.* 8(3):185-190
2. Nilsson P. et al. 2005. Towards a human proteome atlas: High-throughput generation of mono-specific antibodies for tissue profiling. *Proteomics.* 5(17):4327-37
3. Uhlen M. et al. 2005. A human protein atlas for normal and cancer tissues based on antibody proteomics. *Mol Cell Proteomics.* 4(12):1920-32
4. Uhlen M. et al. 2005. Antibody-based Proteomics for Human Tissue Profiling. *Mol Cell Proteomics.* 4(4):384-393

5. Kampf C. et al. 2004. Antibody-based tissue profiling as a tool in clinical proteomics. *Clin. Proteomics.* 1(3-4):285-300
Additional publication:
Ek S. et al. 2006. From gene expression analysis to tissue microarrays - a rational approach to identify therapeutic and diagnostic targets in lymphoid malignancies. *Mol. Cell Proteomics* 5(6):1072-1081