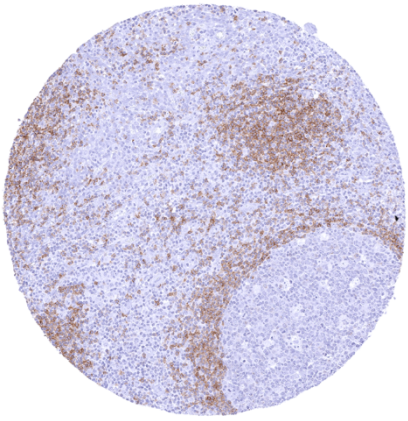
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com

Anti- Immunoglobulin D (IgD)
MSVA-701R / Recombinant Rabbit monoclonal

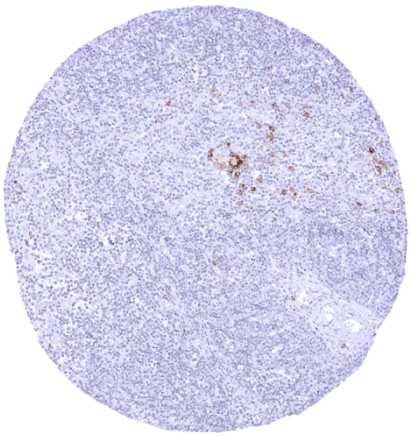
Human SwissProt	P01880
Human Gene Symbol	IGHD
Synonyms	Ig delta chain C region; IGHD; Immunoglobulin heavy constant delta
Specificity	Immunoglobulin D (IgD)
Immunogen	Recombinant human IGHD fragment
Isotype	Rabbit / IgG
Species Reactivity	Human

Localization	Cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Tonsil: A strong IgD staining should be seen in lymphocytes of the mantle zone.
Negative Control	Tonsil: Epithelial cells and most "non-mantle zone" lymphocytes should not stain for IgD.



In the lymph node, IgD staining occurs in a fraction of B-lymphocytes, especially in the mantle zone.

Diffuse large B-cell lymphoma with intense IgD immunostaining of all tumor cells.



In the thymus, only few lymphocytic cells – located in the medulla - show IgD staining.

Biology

Immunoglobulin D (IgD) is an antibody isotype with a relative molecular mass of 185 kDa. During B cell differentiation, IgD starts to be expressed when B cells exit the bone marrow to populate peripheral lymphoid tissues. When a B cell reaches its mature state, it co-expresses both IgM and IgD. Only a few plasma cells express IgD and the level of IgD in the serum is therefore low. IgD represents only 0.25% of immunoglobulins in blood serum. The function of IgD is unclear. Target specific IgD antibodies are not produced, even after immunization. IgD plays a role in B-cell signaling and activation and it binds to basophils and mast cells and activates these cells to produce antimicrobial factors. However, IgD knockout mice do not appear to have major intrinsic B cell defects. The preservation of IgD throughout the evolution implies important functions of IgD that confer a specific survival advantage to the host. In normal lymphatic tissues, IgD is primarily expressed in B-lymphocytes of the mantle zone. Sporadic IgD positive lymphocytes can be seen in most tissue types. IgD positive plasma cells are rare and most commonly seen in the upper airways. In addition, a diffuse IgD staining is sometimes seen in mucus, blood vessels or in the stroma of areas of inflammation. This staining pattern represents soluble IgD derived from serum or body fluids. In tumors, IgD positivity is most commonly seen in mantle zone lymphomas. A positive IgD immunostaining can occasionally also be seen in other lymphomas and in a very small fraction of plasmacytomas.

Potential Research Applications

The role and function of IgD is largely unknown and requires further research.

Protocol Suggestions

Dilution: 1:150. pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.

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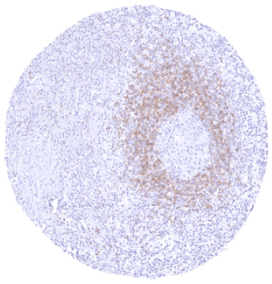
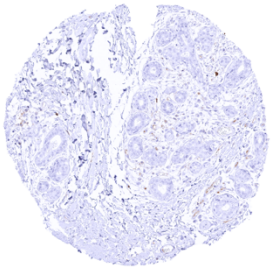
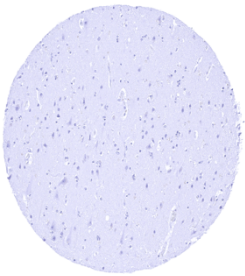


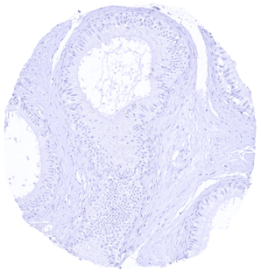
Appendix, mucosa - IgD staining is largely limited to mantle cells surrounding a germinal centre of the appendical mucosa



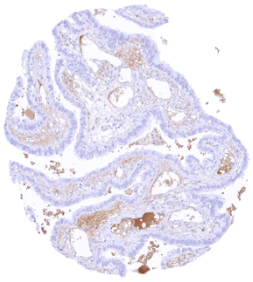
Breast



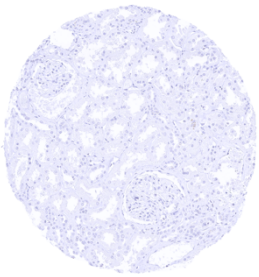
Cerebrum, grey matter



Epididymis

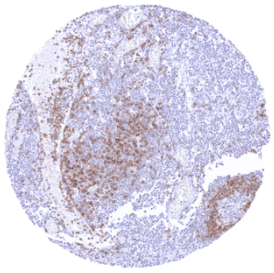


Fallopian tube, mucosa - Substantial IgD staining of intravascular liquids. Weaker staining is also seen in adjacent stroma

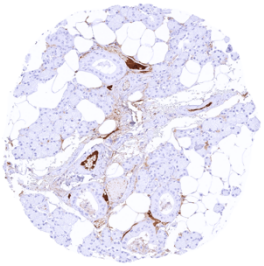


Kidney, cortex

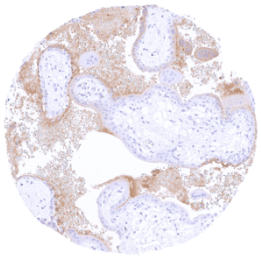
Lung - Moderate to strong IgD staining of intravascular liquid



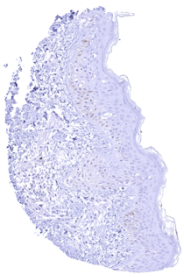
Lymph node - Strong IgD staining in a fraction of B-lymphocytes, especially in the mantle zone



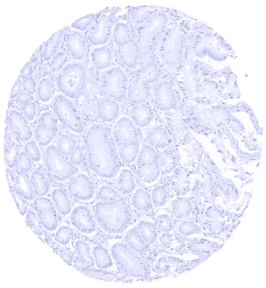
Parotid gland - Strong IgD staining of intravascular plasma



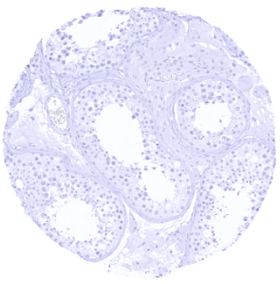
Placenta, early - Substantial IgD staining of intervillous liquids. Weaker staining of adjacent syncytiotrophoblast may reflect a contamination artifact



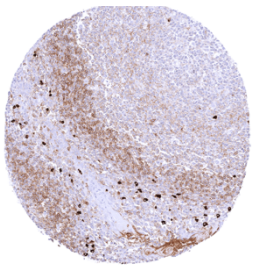
Skin



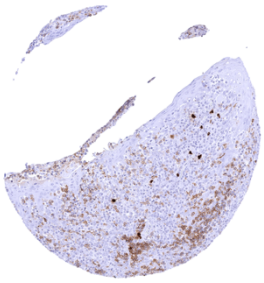
Stomach, antrum



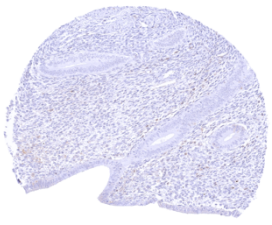
Testis - IgD staining is not seen in this sample



Tonsil - IgD staining of variable intensity in B-lymphocytes. Staining is particularly prominent in the mantle zone of germinal centres. Staining intensity is highest in interspersed plasma cells



Tonsil, surface epithelium – Numerous IgD positive inflammatory cells



Uterus, endometrium (proliferation)