

Immunohistology

Cytokeratin OSCAR



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► Pan cytokeratin antibodies in comparison

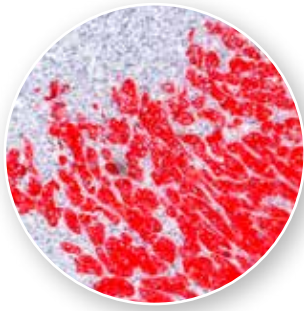
The identification of epithelial origin in metaplastic breast carcinoma (MBC) can be challenging since immunohistochemistry with anti-cytokeratin antibodies sometimes show focal or even negative staining. Therefore a panel of cytokeratins is often applied for that purpose.

Five different broad spectrum cytokeratin antibodies were compared in a study of Pallavi Galera and colleagues from UMass Memorial Medical Center, Massachusetts. 30 MBC cases, including 7 spindle cell carcinomas were stained with cytokeratin antibodies OSCAR, AE1/AE3, CAM5.2, 34βE12 and D5/16B4 (CK5/6) respectively. OSCAR showed the best sensitivity of all tested clones detecting all cases of MBC (see Table 1).

Especially this was also the case for spindle cell carcinomas which are often difficult to discriminate from other spindle cell lesions (see Table 2).

All nineteen spindle cell lesions, used as controls, were negative, proving the high specificity of OSCAR.

The broad spectrum cytokeratin antibody, clone OSCAR was introduced by Allen M. Gown in the early 2000s as a sensitive marker for the differentiation of epithelial carcinomas and non-epithelial lesions. Zytomed Systems now offers this antibody for immunohistochemistry in formalin-fixed, paraffin-embedded tissue sections to complete its pan cytokeratin portfolio.



OSCAR immunostain on squamous cell carcinoma of the skin

► Table 1: Expression of cytokeratins in metaplastic breast carcinomas

| Cytokeratin antibody | Number of positive cases | Sensitivity |
|----------------------|--------------------------|-------------|
| OSCAR | 30/30 | 100 % |
| AE1/AE3 | 27/30 | 90.0 % |
| CAM5.2 | 19/30 | 63.3 % |
| 34βE12 | 21/30 | 70.0 % |
| D5/16B4 | 15/30 | 50.0 % |

► Table 2: Expression of cytokeratins in spindle cell carcinomas of the breast

| Cytokeratin antibody | Number of positive cases | Sensitivity |
|----------------------|--------------------------|-------------|
| OSCAR | 7/7 | 100 % |
| AE1/AE3 | 6/7 | 85.7 % |
| CAM5.2 | 3/7 | 42.8 % |
| 34βE12 | 4/7 | 57.0 % |
| D5/16B4 | 2/7 | 28.5 % |

► Broad spectrum and pan cytokeratin antibodies for formalin-fixed paraffin-embedded tissue sections

| Description | Format | Dilution | Volume | Cat. No. |
|--|--------------|---------------|--------|------------|
| Cytokeratin Clone: OSCAR Host: Mouse | Ready-to-use | - | 6 ml | Z-465-26-Y |
| | Concentrate | ca. 1:40 | 1 ml | Z-465-01-Y |
| Cytokeratin HMW Clone: 34betaE12 Host: Mouse | Ready-to-use | - | 6 ml | MSG027 |
| | | | 16 ml | BMS015 |
| | Concentrate | 1:25 – 1:50 | 0.5 ml | MSK027-05 |
| | | | 1 ml | MSK027 |
| Cytokeratin Pan Clone: AE1 + AE3 Host: Mouse | Ready-to-use | - | 6 ml | MSG019 |
| | Concentrate | 1:100 – 1:200 | 0.5 ml | BMS006 |
| | | | 1 ml | MSK019-05 |
| Cytokeratin Pan Plus (AE1 & AE3 & 5D3) Clone: AE1 + AE3 + 5D3 Host: Mouse | Ready-to-use | - | 6 ml | MSG098 |
| | Concentrate | 1:50 – 1:100 | 0.5 ml | MSK098-05 |
| Cytokeratin 5 & 6 Clone: D5/16B4 Host: Mouse | Ready-to-use | - | 6 ml | MSG034 |
| | | | 16 ml | BMS017 |
| | Concentrate | 1:50 – 1:100 | 0.5 ml | MSK034-05 |
| | | | 1 ml | MSK034 |

► Bibliography

- [1] Galera P *et al.* Diagnosis of Metaplastic Breast Carcinoma: Keratin OSCAR Versus Other Cytokeratins. *Appl Immunohistochem Mol Morphol* 24:622-626, 2016