THE WISTAR INSTITUTE

Herlyn Lab - Monoclonal Antibodies

GI Tract tumors

I. Lewis and related antigens

1. 1116-NS-19-9 (CO 19-9), IgG1, Sialylated Le^a	Koprowski et al. 1979
2. 129-2-C3-9-11 (CO 29.11), IgG1, Sialylated Le^a and Le^a (10:1)	Herlyn et al. 1985
3. 151-6-A7-9-11 (CO 51.4), IgG3, Le^a	Blaszczyk et al. 1984a, 1985
4.a) 143-2-A6-11 (CO 43.1), IgM, Le^b b) 130-3-F7-5-9 (CO 30.1), IgG1, Le^b	Blaszczyk et al. 1984a, 1985 Blaszczyk et al. 1984a, 1985
5. 1116-NS-10-17 (10-17), IgM, Le^b and H type 1	Brockhaus et al. 1981
6. 151-5-G3-5 (CO 51.3), IgGa3, Le^a and Le^b (>100:1)	Blaszczyk et al. 1984a, 1985

II. X, Y, H and related antigens

1.a) WGHS-29-1 (CO 29-1), IgM, X (LNF III) b) D156-45 (CO 56-45), IgM, X	Brockhaus et al. 1982 Hansson et al. 1983
2.a) 140-1-C3-3 (BR 40.9), M, X-like b) 261-1-4-7 (61-7), IgG1, X-like	unpublished unpublished
3.a) 363-15-6A (BR 15-6A), IgG2a, Y b) MCF7-55-2 (BR55-21), IgG3, Y/B	Rodeck et al. 1987 Blaszczyk-Thurin, 1987
4. BRD8, IgM, H-like	Lindgren et al. 1985

III. Blood groups A and B

1.a) E115-2 (PA 15-2), IgG3, Bld. grp. B type 2	Hansson et al. 1983
b) E123-48 (PA 23-48), IgG1. Bld. grp. B type 2	Hansson et al. 1983
2.a) E283-55 (PA 83-52), IgA, Bld. grp. B, types 1 and 2	Hansson et al. 1983
b) 173-3-45-14 (GA 734), IgA, Bld. grp. B types 1 and 2	unpublished Reference

IV. Membrane bound antigens

1. 1083-17-1A (CO 171A), IgG2a, 40 Kd	Herlyn et al. 1979
2. 173-2-35-3-11 (GA 73.3), IgG2a, 33, 35, 38, Kd	Herlyn et al. 1984

3. WCDK-6-21 (CO 6-21), IgG2a, N.I.	unpublished
4. WGHS-22-9 (CO 22-9), IgG1, N.I.	unpublished

V. CEA and related proteins

1. 1116 NS 3d6.35 (3d6), IgG1, 180 kd	Mitchell et al. 1980, Koprowski et al. 1979
2. C42032 (CO 2032), IgG2a, 180, 160, 50, 40, Kd	Blaszczyk et al. 1984b
3. 1116 NS 29-10 (CO 29-10), IgG1, 34kD	Koprowski et al. 1979

VI. Other antigens

1. C41472 (CO 1472), IgG2a, 40 Kd	Herlyn et al. 1982
2. 144-1-C8-6 (CO 44.1), IgG2a, N.I.	Herlyn et al. 1984
3. WGHS-9-1 (GA 9-1), IgG1, 25 Kd	unpublished
4. 151-5-E7-9-11 (CO 51.1), IgM, Carbohydrate	unpublished
5. 271-10-19 (271), IgM, N.I.	unpublished
6. 356-9-D7-8 (356-8), IgM, N.I.	unpublished

References

1. Blaszczyk M, Hansson GC, Karlsson K-A, Larson G, Stromberg N, Thurin J, Herlyn M, Steplewski Z, Koprowski, H: Lewis blood group antigens defined by monoclonal anti-colon carcinoma antibodies. Arch Biochem Biophys 233: 161-168, 1984.
2. Blaszczyk M, Pak KY, Herlyn M, Lindgren J, Pessano S, Steplewski Z: Characterization of gastrointestinal tumor-associated carcinoembryonic antigen-related antigens defined by monoclonal antibodies. Cancer Res 44: 245-253, 1984.
3. Blaszczyk M, Pak KY, Herlyn M, Sears HF, Steplewski Z: Characterization of Lewis antigens in normal colon and gastrointestinal adenocarcinomas. Proc Natl Acad Sci USA 82: 3552-3556, 1985.
4. Blaszczyk-Thurin M, Thurin J, Hindsgaul O, Karlsson K.-A., Larson Y, and Ginsburg U: J Biol Chem. 256: 13223-23226, 1987.
5. Brockhaus M, Magnani JL, Herlyn M, Blaszczyk M, Steplewski Z, Koprowski H, Ginsburg V: Monoclonal antibodies directed against the sugar sequence of lacto-N-fucopentaose III are obtained from mice immunized with human tumors. Arch Biochem Biophys 217: 647-651, 1982.
6. Brockhaus M, Magnani JL, Herlyn M, Blaszczyk M, Steplewski Z, Koprowski H, Ginsburg V: Monoclonal antibodies directed against the sugar sequence of lacto-N-fucopentaose III are

obtained from mice immunized with human tumors. Arch Biochem Biophys 217: 647-651, 1982.
7. Hansson GC, Karlsson K-A, Larson G, McKibbin JM, Blaszczyk M, Herlyn M, Steplewski Z, Koprowski H: Mouse monoclonal antibodies against human cancer cell lines with specificities for blood group and related antigens. Characterization by antibody binding to glycosphingolipids in a chromatogram binding assay. J Biol Chem 258: 4091-4097, 1983.
8. Herlyn D, Herlyn M, Ross AH, Ernst C, Atkinson B, Koprowski H: Efficient selection of human tumor growth-inhibiting monoclonal antibodies. J Immunol Meth 73: 157-167, 1984.
9. Herlyn M, Blaszczyk M, Bennicelli J, Sears HF, Ernst C, Ross AH, Koprowski H: Selection of monoclonal antibodies detecting serodiagnostic human tumor markers. J Immunol Meth 80: 107-116, 1985.
10. Herlyn M, Sears HF, Steplewski Z, Koprowski H: Monoclonal antibody detection of a circulating tumor-associated antigen. I. Presence of antigen in sera of patients with colorectal, gastric and pancreatic carcinoma. J Clin Immunol 2: 135-140, 1982.
11. Herlyn M, Steplewski Z, Herlyn D, Koprowski H: Colorectal carcinoma-specific antigen: Detection by means of monoclonal antibodies. Proc Natl Acad Sci USA 76: 1438-1442, 1979.
12. Koprowski H, Steplewski Z, Mitchell K, Herlyn M, Herlyn D, Fuhrer P: Colorectal carcinoma antigens detected by hybridoma antibodies. Somat Cell Genet 5: 957-972, 1979.
13. Hansson GC, Karlsson K-A, Larson G, McKibbin JM, Blaszczyk M, Herlyn M, Steplewski Z, Koprowski H: Mouse monoclonal antibodies against human cancer cell lines with specificities for blood group and related antigens. Characterization by antibody binding to glycosphingolipids in a chromatogram binding assay. J Biol Chem 258: 4091-4097, 1983.
14. Lindgren J, Blaszyck M, Atkinson B, Steplewski Z, and Koprowski H: Hybridoma 4: 37-15, 1985.
15. Mitchell, KF: Cancer Immunol. Immunotherap. 10: 1-5, 1980.
16. Rodeck U, Herlyn M, Leander K, Borlinghaus P, Koprowski H: A mucin containing the X, Y, and H type 2 carbohydrate determinants is shed by carcinoma cells. Hybridoma 6: 389-401, 1987.

Melanoma

MAb MAA

I. Disialogangliosides

1. a) 136-2-E3-C11-3 (ME 36.1), IgG3, GD2 plus GD3
   b) 136-2-E3-C11 (ME 36.2a), IgG2a, GD2 plus GD3 (switch variant), 30ug/ml
   c) 136-2-E3-C11 (ME 36), IgG1 (switch variant)
2. a) 420-1-50-8-5 (ME 50.8), IgM (rat), GD3
   b) 439-3-35-6-1-10 (ME 35.6), IgM, GD3
3. a) 131-1A7-2-2 (ME 311), IgG3, 9-0-acetyl GD3, 16ug/ml
   b) 439-5-3-6 (ME 3.3), IgG3, 9-0-acetyl GD3
   c) 440-3-73 (ME 7.3), IgG3, 9-0-acetyl GD3
   d) 439-4-43-3 (43.3), IgG3, 9-0-acetyl GD3
4. 439-5-2-4-6 (ME 24), IgM, GD3 plus GD2
5. A2B5, IgM, GT3 (ATCC)

II. Cell-Cell and Cell-Substrate Receptors

1. a) 131-2H6-1-8 (ME 31.3), IgG1, chondroitin sulfate proteoglycan, >260 Kd, 10ug/ml
   b) 0195-45 (ME 9545), IgG1, chondroitin sulfate proteoglycan, >260 Kd
2. a) 691-I-5-Nu4B (ME Nu4B), IgG2a, p130 Kd, 105 Kd, Vitronectin receptor, 34ug/ml
   b) 403-77-4-2 (77), IgG1, p120/94 Kd, Vitronectin receptor (v3, epitope B) c) SAP-52-8, IgG1, 97 Kd, Vitronectin receptor (3), 32ug/ml
3. a) A32, IgG1, Mel-CAM/MUC18, p113 Kd, 13ug/ml, domain 2
   b) MN-4, IgG1 k, (PVA-I-2C7-C), recMel-CAM, extracellular domain, domain 4 14ug/ml
   c) MN-10, IgG1 k, (PVA-II-1H6-F10), recMel-CAM, extracellular domain, domains also not known for MN-17, MN-14, MN-17, MN-2
   d) MN-3, IgG1 k, (PVA-2C5-A), recMel-CAM, extracellular domain, domain 1
   e) MN-7, IgG1 k, (PVA-II-1 H3-D11), recMel-CAM, extracellular domain, domain 1
   f) MN-9, IgG1 k, (PVA-II-1B6-E11), recMel-CAM, extracellular domain, domain2
   g) MN-5, IgG1 k, (PVA-I-4F5-A), recMel-CAM, extracellular domain, domain 5
   h) MN-11, IgG1 k(PVA II-1F7-C8), recMel-CAM, extracellular domain, domain 2
   i) MN-8, IgG1 k(PVA II-1H4-F10), recMel-CAM, extracellular domain, domain 2
4. a) PS/2, IgG2b, alpha 4 of VLA-4 (rat/mouse), (ATCC 1911-CRL)
   b) TS2/16.2.1, IgG1, ß1 of VLA1ß (ATCC 243-HB), 90ug/ml
   c) TS2/7.1.1, IgG1, alpha 1 of VLA-1 (ATCC 245-HB), 122ug/ml
5. P8B1, IgG2b, VCAM-1 (Hybridoma Bank, Iowa), blocking

III. Growth Factor Receptors

1. a) 200-3-G6-4-6 (ME 20.4), IgG1, NGF-receptor, 56ug/ml b) I182-11 (ME 82-11), IgG1, NGF-receptor, 40ug/ml
2. a) 425-3-75-5-4 (425), IgG2a, EGF-receptor b) 403-75-7 (75), IgG1, EGF-receptor
3. IR1, IgG1, Insulin receptor (ATCC)

IV. Cell-Cell and Cell-Substrate Receptors

1. a) 131-2H6-1-8 (ME 31.3), IgG1, chondroitin sulfate proteoglycan, >260 Kd, 10ug/ml b) 0195-45 (ME 9545), IgG1, chondroitin sulfate proteoglycan, >260 Kd
2. a) 691-I-5-Nu4B (ME Nu4B), IgG2a, p130 Kd, 105 Kd, Vitronectin receptor, 34ug/ml b) 403-77-4-2 (77), IgG1, p120/94 Kd, Vitronectin receptor (v3, epitope B) c) SAP-52-8, IgG1, 97 Kd, Vitronectin receptor (3), 32ug/ml
3. a) A32, IgG1, Mel-CAM/MUC18, p113 Kd, 13ug/ml, domain 2
   b) MN-4, IgG1 k, (PVA-I-2C7-C), recMel-CAM, extracellular domain, domain 4 14ug/ml
   c) MN-10, IgG1 k, (PVA-II-1H6-F10), recMel-CAM, extracellular domain, domains also not known for MN-17, MN-14, MN-17, MN-2
   d) MN-3, IgG1 k, (PVA-2C5-A), recMel-CAM, extracellular domain, domain 1
   e) MN-7, IgG1 k, (PVA-II-1 H3-D11), recMel-CAM, extracellular domain, domain 1
   f) MN-9, IgG1 k, (PVA-II-1B6-E11), recMel-CAM, extracellular domain, domain2
   g) MN-5, IgG1 k, (PVA-I-4F5-A), recMel-CAM, extracellular domain, domain 5
   h) MN-11, IgG1 k(PVA II-1F7-C8), recMel-CAM, extracellular domain, domain 2
   i) MN-8, IgG1 k(PVA II-1H4-F10), recMel-CAM, extracellular domain, domain 2
4. a) PS/2, IgG2b, alpha 4 of VLA-4 (rat/mouse), (ATCC 1911-CRL)
   b) TS2/16.2.1, IgG1, ß1 of VLA1ß (ATCC 243-HB), 90ug/ml
   c) TS2/7.1.1, IgG1, alpha 1 of VLA-1 (ATCC 245-HB), 122ug/ml
5. P8B1, IgG2b, VCAM-1 (Hybridoma Bank, Iowa), blocking

V. Growth Factor Receptors

1. a) 200-3-G6-4-6 (ME 20.4), IgG1, NGF-receptor, 56ug/ml b) I182-11 (ME 82-11), IgG1, NGF-receptor, 40ug/ml
2. a) 425-3-75-5-4 (425), IgG2a, EGF-receptor b) 403-75-7 (75), IgG1, EGF-receptor
3. IR1, IgG1, Insulin receptor (ATCC)

VI. Tenascin and Fibronectin

1. 302-2-E5-10-2 (302-1), IgG1, Tenascin
2. 300-3-A7-3-1 (300-3), IgG1, Tenascin, 39ug/ml
3. 300-2-E10-2 (300-2), IgG1, Tenascin
4. 302-1-E9-9-5 (302-9), IgG1, Tenascin, 213ug/ml
5. 300-2-D2-1-8 (300-1), IgG1, Tenascin
6. HFN 7.1, IgG1, Fibronectin (ATCC)
7. M3F7, IgG, type IV collagen, 2 subunits, 185 and 175 kDa [(a1 (IV), a2 (IV)], Hybridoma Bank, Iowa

VII. Class I and Class IIMHC Antigens

1. 691-13-17 (13-17), IgG1, HLA-DR, 16ug/ml
2. SK 37-7 (37-7), IgG2a, HLA-DR + DQ
3. B228-8 (28-8), IgG2a, HLA-DR + DQ
4. a) 203-2A6-B11-3 (20.11), IgG1, HLA DQ
   b) 56-1-4 (56-1-4), IgG1, HLA DQ
5. W6/32, IgG2a, HLA A, B, C (ATCC), ascitis

VIII. Melanocyte-Associated Antigens

1. 505-1-1-9 (505), IgG1, 115ug/ml
2. K, IgG1, ug/ml
3. Q, IgG1, 23ug/ml
4. 2G-10, IgG1, tyrosinase (P. Natali, Rome)

IX. Melanotransferrin

JD6-C9-Cl 3 (ME D63), IgG2a, p97 Kd

X. Highly Glycosylated Proteins

1. a) 149-2-A2-Cl 17 (ME 49.1), IgG1, p30-60 Kd (CD63), 70ug/ml
   b) 404-101-4-5 (101), IgG1, p30-50 Kd (weakly crossreactive to CD63)
   c) 506-2-20-7 (506), IgG3, p30-50 Kd (CD63)
   d) 439-1-67-6-1 (67-6), IgG2b, p40-70 Kd (crossreactive with CD63)

XI. Cell Surface Proteases

452-2-D1-2 (452), IgG1, 143 Kd, CD13 (aminopeptidase)

XII. Growth factors and cytokines

1. a) bFGF-8, IgG1 k, 17.2ug/ml, recbFGF
   b) bFGF-11, IgG1 k, 35ug/ml, recbFGF
2. a) MCP-31-B, 2.01ug/ml, recMCP-1
   b) MCP-1-D10-1, recMCP-1, IgG1 k, 60.8 ug/ml
   c) MCP-1-D10-3, recMCP-1, IgG1 k, 36ug/ml
   d) rabbit polyclonal against recMCP-1
3. a) IL-8 2H1-H6, rec. IL-8, IgG1 k, 21.25ug/ml
   b) IL-8 2H9-A12, rec. IL-8
4. a) VEGF I 4F6-B11, rec.VEGF, IgM
   b) VEGF II 3F4-C4, rec.VEGF, IgM
5. a) HBP17-3G11-A5, rec.HBP17, IgG 1,k
   b) HBP175F8-A3, rec. HBP17, IgG1,k
6. a) PDGF B 1H1-A7, Sup. Of Ad5-infected cells, IgG1,k
   b) 127.5.7.3.1, PDGF AA and PDGF AB (anti-AA), IgG1, (ATCC)
   c) 127.8.2.2.2, rec.PDGF AA, IgG2b, (ATCC)
   d) 120.1.2.1.2, PDGF BB, IgG1, (ATCC)
   e) 121.6.1.1.1, PDGF BB and PDGF AB (anti-BB), IgG1 (ATCC)

XIII. Other

1. Anti-Fibroblasts
   a) 451-1-C7-1 (451), IgG1, 59ug/ml
2. Anti-Carbohydrates
   a) 456-1-A11-1-2 (456), IgG2a, p120 Kd, 18ug/ml
   b) HNK1, IgM (ATCC)
   c) 439-3-27-2-3, IgG1 k, (27.2),22ug/ml
3. Oncogenes and Suppressor genes
   a.
      i. p16-25, IgG1 k, 15ug/ml, recp16
      ii. p16-D8-1, recp16, IgG1 k, 45ug/ml
      iii. p16-D8-2, recp16, IgG1 k, 32ug/ml
      iv. p16-D8-3, recp16, IgG1 k, 23.2ug/ml
      v. p16-D8-4, recp16, IgG1 k, 32ug/ml
   b.
      i. YY1-D25-C-1, recYY1

ii. YY1-D25-E-1, rec YY1
iii. YY1-D25-F-1, recYY1

c.

i. MITF-D35-A9, recMITF
ii. MITF D35-E3, recMITF
iii. MITF- D35-D3, recMITF

4. Adenoviruses
   a) Ad-B9, 1.86ug/ml, adenolacZ
   b) Ad-C12, 17.55ug/ml, adenolacZ
   c) 2Hx-2, IgG2a, (ATCC HB-8117), Hela inf. with Adenovirus 2, subgr. A-E
5. Not Characterized
   a) 178-2-18-10 (ME 77.1), IgG1, p120 Kd, 38ug/ml
   b) I175-29-6 (ME 7529), IgG1, p120 Kd, 33ug/ml
   c) H77736 (ME 7736), IgG2b, p125 K, 104 K, 99 Kd
   d) 507-2-2-4 (507), IgG1
   e) IM-1650-11-4 (#6), IgG1
   f) 3-1-40-2 (#12), IgG1