**Appendice**

Lyophilyzed powder protein molecules marketing data and excipients.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **N** | **Name** | **Marketing start** | **Dose** | **Concentration** | **Buffer** | **E2** | **E3** | **E4** | **E5** | **E6** | **E7** | **E8** | **observations** |
| 1 | Abatacept (Orencia) | 2009 | 50 mg | 200 mg/mL | Sodium Phosphate  | Poloxamer 188 | Sucrose |  |  |  |  |  |  |
| 2 | Ado-Trastuzumab (Kadcyla) | 2013 | 160 mg | 20 mg/mL | Sodium Succinate | Polysorbate 20 | Sucrose  |  |  |  |  |  |  |
| 3 | Agalsidase beta (Fabrazyme) | 2008 | 5 mg | 5 mg/mL | Sodium Phosphate  | Mannitol |   |  |  |  |  |  |  |
| 4 | Albiglutide (Tanzeum) | 2014 | 50 mg | 100 mg/mL | Sodium Phosphate  | Mannitol | Polysorbate 80 | Trehalose |  |  |  |  |  |
| 5 | Albutrepenonacog Alfa (Idelvion) | 2016 | 500 unit | 200 unit/mL | Citrate | Mannitol | Polysorbate 80 | Sucrose |  |  |  |  |  |
| 6 | Aldesleukin (Proleukin) | 1992 | 1,3 mg | 1 mg/mL | Sodium Phosphate  | Mannitol | Sodium Dodecyl Sulfate |  |  |  |  |  |  |
| 7 | Alglucosidase alfa (Lumizyme) | 2010 | 50 mg | 5 mg/mL | Sodium Phosphate  | Mannitol | Polysorbate 80 |  |  |  |  |  |  |
| 8 | Alpha-1-proteinase inhibitor (Prolastin) | 1987 | 1000 mg | 50 mg/L | Sodium Phosphate  | Sodium Chloride | Polyethylene Glicol |  |  |  |  |  |  |
| 9 | Alteplase (Activase) | 1987 | 100 mg | 100 mg/mL | X | Arginine | Polysorbate 80 |  |  |  |  |  |  |
| 10 | Antihemophilic Factor (Alphanate) | 2007 | 250 unit | 50 unit/mL | Histidine | Albumin | Arginine |  |  |  |  |  |  |
| 11 | Antihemophilic Factor (Recombinant), (Bioclate) | 1992 | 250 - 1500 unit | 50 unit/mL | Histidine | Albumin | Polyethylene Glicol | Sodium Chloride |  |  |  |  |  |
| 12 | Antihemophilic Factor (Koate) | 1974 | 250 - 1500 unit | 50 unit/mL | Histidine | Glycine | Polyethylene Glicol | Polysorbate 80 | Calcium Chloride | Sodium Phosphate |  |  |  |
| 13 | Antihemophilic Factor (Monoclate-P) | 1972 | 250 - 1500 unit | 50 unit/mL | Histidine | Mannitol | Albumin | Calcium Chloride |  |  |  |  |  |
| 14 | Antihemophilic Factor (Recombinant), (Nuwiq) | 2015 | 250 - 1500 unit | 50 unit/mL | Citrate | Sodium Chloride | Sucrose | Arginine | Calcium Chloride | Poloxamer 188 |  |  |  |
| 15 | Antihemophilic Factor (Recombinant), (Obizur) | 2014 | 250 - 1500 unit | 50 unit/mL | Tris | Sodium Chloride | Citrate | Calcium Chloride | Sucrose | Polysorbate 80 |  |  |  |
| 16 | Antihemophilic Factor (Recombinant), (Recombinate) | 1992 | 250 - 1500 unit | 50 unit/mL | Histidine | Albumin | Calcium Chloride | Polyethylene Glicol | Sodium Chloride | Polysorbate 80 |  |  |  |
| 17 | Antihemophilic Factor Recombinant (Afstyla) | 2016 | 250 - 1500 unit | 50 unit/mL | Histidine | Polysorbate 80 | Calcium Chloride | Sodium Chloride | Sucrose |  |  |  |  |
| 18 | Antihemophilic Factor Recombinant (ELOCTATE™) | 2014 | 250 - 1500 unit | 50 unit/mL | Histidine | Sucrose | Sodium Chloride | Calcium Chloride | Polysorbate 20 |  |  |  |  |
| 19 | Antihemophilic Factor Recombinant (Helixate FS)  | 2016 | 250 - 1500 unit | 50 unit/mL | Histidine | Sucrose | Glycine | Calcium Chloride | Polysorbate 80 |  |  |  |  |
| 20 | Antihemophilic Factor Recombinant (Kovaltry)  | 1993 | 250 - 1500 unit | 50 unit/mL | Histidine | Sucrose | Glycine | Calcium Chloride | Sodium Chloride | Polysorbate 80 |  |  |  |
| 21 | Antihemophilic Factor Recombinant (Novoeight) | 2013 | 250 - 1500 unit | 50 unit/mL | Histidine | Sodium Chloride | Polysorbate 80 | Calcium Chloride | L-Methionine |  |  |  |  |
| 22 | Antihemophilic Factor Recombinant PEGylated (ADYNOVATE ) | 2015 | 250 - 1500 unit | 50 unit/mL | Tris | Mannitol | Calcium Chloride | Sodium Chloride | Trehalose | Histidine | Polysorbate 80 | Glutathione |  |
| 23 | Antihemophilic Factor, Recombinant (ADVATE) | 2003 | 250 - 1500 unit | 50 unit/mL | Tris | Mannitol | Calcium Chloride | Sodium Chloride | Trehalose | Histidine | Polysorbate 80 | Glutathione |  |
| 24 | Antihemophilic Factor, Recombinant (ReFacto®, XYNTHA)  | 2000/2008 | 250 - 1500 unit | 50 unit/mL | Histidine | Sodium Chloride | Sucrose | Calcium Chloride | Polysorbate 80 |  |  |  | xyntha - enhanced drug purification |
| 25 | Anti-inhibitor coagulant complex (Feiba NF) | 1986 | 400 - 3250 unit | 15 unit/mL | Citrate | Sodium Chloride |   |  |  |  |  |  |  |
| 26 | Antithrombin Alfa (Atryn) | 2009 | 525 unit | 52,5 unit/mL | Citrate | Glycine | Sodium Chloride |  |  |  |  |  |  |
| 27 | Antithrombin III human (Thrombate III) | 1991 | 1000 unit | 50 unit/mL | Alanine | Sodium Chloride |   |  |  |  |  |  |  |
| 28 | Antithymocyte globulin (rabbit) (Thymoglobulin) | 2003 | 25 mg | 2,5 mg/mL | Glycine | Mannitol | Sodium Chloride |  |  |  |  |  |  |
| 29 | Asparaginase (Elspar) | 1978 | 10000 unit | 500 unit/mL | X | Mannitol |   |  |  |  |  |  |  |
| 30 | Asparaginase Erwinia chrysanthemi (Erwinaze) | 2011 | 10000 unit | 1000 unit/mL | X | Glucose | Sodium Chloride |  |  |  |  |  |  |
| 31 | Basiliximab (Simulect) | 1998 | 10 - 20 mg | 4 mg/mL | Sodium Phosphate  | Sodium Chloride | Sucrose | Mannitol | Glycine  |  |  |  | WFI reconstitution |
| 32 | Belatacept (Nulojix) | 2015 | 250 mg | 25 mg/mL | Sodium Phosphate  | Sodium Chloride | Sucrose |  |  |  |  |  |  |
| 33 | Belimumab (Benlysta) | 2010 | 120 mg | 80 mg/mL | Citrate | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 34 | Blinatumomab (BLINCYTO) | 2014 | 0,035 mg | 0,0125 mg/mL | X | Lysine | Polysorbate 80 | Trehalose |  |  |  |  |  |
| 35 | Botulinum Toxin Type A (Botox) | 1989 | 50 unit | 27,78 unit/mL | X | Albumin | Sodium Chloride |  |  |  |  |  |  |
| 36 | Botulinum Toxin Type A (Dysport) | 2009 | 50 unit | 27,78 unit/mL | X | Albumin | Lactose |  |  |  |  |  |  |
| 37 | Botulinum Toxin Type A complexing proteins free (Xeomin) | 2010 | 50 unit | 27,78 unit/mL | X | Albumin | Sucrose |  |  |  |  |  |  |
| 38 | Brentuximab vedotin (Adcetris) | 2011 | 50 mg | 5 mg/mL | Citrate | Trehalose | Polysorbate 80 |  |  |  |  |  |  |
| 39 | C1 Esterase Inhibitor (Recombinant) (Cinryze) | 2008 | 500 unit | 100 unit/mL | Citrate | Sodium Chloride | Sucrose | Valine | Alanine  | Threonine |  |  |  |
| 40 | C1 Esterase Inhibitor (Recombinant) (Ruconest) | 2014 | 2100 unit | 150 unit/mL | Citrate | Sucrose |   |  |  |  |  |  |  |
| 41 | Canakinumab (Ilaris) | 2009 | 180 mg | 150 mg/mL | Histidine | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 42 | Coagulation Factor IX (Alprolix) | 2014 | 250 - 2000 unit | 200 unit/mL | Histidine | Sucrose | Mannitol | Polysorbate 20 | Sodium Chloride |  |  |  |  |
| 43 | Coagulation Factor IX (BeneFix) | 2007 | 250 - 2000 unit | 200 unit/mL | Histidine | Sucrose | Sodium Chloride |  |  |  |  |  |  |
| 44 | Coagulation Factor IX (Idelvion) | 2016 | 250 - 2000 unit | 200 unit/mL | Citrate | Mannitol | Polysorbate 80 | Sucrose |  |  |  |  | WFI reconstituion |
| 45 | Coagulation Factor IX (Ixinity) | 2005 | 250 - 2000 unit | 200 unit/mL | Histidine | Mannitol | Trehalose | Sodium Chloride | Polysorbate 80 |  |  |  |  |
| 46 | Coagulation Factor IX (Mononine) | 1996 | 250 - 2000 unit | 200 unit/mL | Histidine | Mannitol | Sodium Chloride | Polysorbate 80 |  |  |  |  |  |
| 47 | Coagulation Factor IX (Rixubis) | 2013 | 250 - 2000 unit | 200 unit/mL | Histidine | Sodium Chloride | Calcium Chloride | Mannitol | Sucrose | Polysorbate 80  |  |  | WFI reconstitution |
| 48 | Coagulation factor VIIa (Novoseven) | 2012 | 1,2 - 4,8 mg | 0,6 mg/mL | X | Sodium Chloride | Calcium Chloride | Glycylglycine | Polysorbate 80 | Mannitol |  |  |  |
| 49 | Coagulation Factor X (Coagadex) | 2015 | 250 - 2000 unit | 200 unit/mL | Sodium Phosphate  | Citrate | Sucrose | Sodium Chloride |  |  |  |  |  |
| 50 | Coagulation Factor XIII A-Subunit (Tretten) | 2012 | 15 mg | 5 mg/mL | Histidine | Sodium Chloride | Sucrose | Polysorbate 20 |  |  |  |  |  |
| 51 | Coral snake (micrurus fulvius) immune globulin antivenin (equine) | 2016 | 250 | 25 /mL | X |   |   |  |  |  |  |  |  |
| 52 | Crotalus antivenin (CroFab) | 2010 | 1000 mg | 55,6 mg//mL | Sodium Phosphate  | Sodium Chloride | Thimerosal |  |  |  |  |  |  |
| 53 | Desirudin (Iprivask) | 2013 | 15 mg | 30 mg/mL | X | Magnesium Chloride | Mannitol |  |  |  |  |  |  |
| 54 | Digoxin Immune Fab Ovine (Digifab) | 2001 | 40 mg | 10 mg/mL | Sodium Acetate | Mannitol |   |  |  |  |  |  |  |
| 55 | Eftrenonacog alfa (Alprolix) | 2014 | 2000 unit | 400 unit/mL | Histidine | Sucrose | Sodium Chloride | Polysorbate 20 |  |  |  |  |  |
| 56 | Elotuzumab (Empliciti) | 2015 | 300 mg | 25 mg/mL | Citrate | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 57 | Etanercept (Enbrel) multidose  | 2000 | 25 mg | 25 mg/mL | Tris | Sucrose | Mannitol |  |  |  |  |  | WFI reconstitution |
| 58 | Etanercept (Enbrel)  | 2000 | 25 mg | 50 mg/mL | Sodium Phosphate  | Arginine | Sodium Chloride | Sucrose |  |  |  |  | WFI reconstitution |
| 59 | Fibrinogen Concentrate Human (Riastap) | 2009 | 1300 mg | 26 mg/mL | Citrate | Albumin | Arginine | Sodium Chloride |  |  |  |  |  |
| 60 | Follitropin (Gonal-F) | 2003 | 900 unit | 450 unit/mL | Sodium Phosphate  | Sucrose |   |  |  |  |  |  |  |
| 61 | Gemtuzumab ozogamicin (Mylotarg) | 2017 | 5 mg | 1 mg/mL | Sodium Phosphate  | Dextran 40 | Sodium Chloride | Sucrose |  |  |  |  |  |
| 62 | Glucarpidase (Voraxaze) | 2012 | 1000 unit | 1000 unit/mL | Tris | Lactose | Zinc |  |  |  |  |  |  |
| 63 | Hemin (Panhematin) | 1983 | 301 mg | 7 mg/mL | X | Sorbitol |   |  |  |  |  |  |  |
| 64 | Imiglucerase (Cerezyme) | 1994 | 200 - 400 unit | 40 unit/mL | Citrate | Mannitol | Polysorbate 80 |  |  |  |  |  |  |
| 65 | Immune Globulin Human (Carimune Nanofiltered) | 2009 | 3000 mg | 3000 mg/mL | X | Sucrose | Sodium Chloride |  |  |  |  |  |  |
| 66 | Infliximab (Ixifi) | 2016 | 100 mg | 10 mg/mL | X | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 67 | Infliximab (Inflectra) | 2013 | 100 mg | 10 mg/mL | Sodium Phosphate  | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 68 | Infliximab (Remicade) | 1998 | 100 mg | 10 mg/mL | Sodium Phosphate  | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 69 | Inotuzumab ozogamicin (Besponsa) | 2017 | 1 mg | 0,25 mg/mL | Tris | Polysorbate 80 | Sodium Chloride | Sucrose |   |  |  |  |  |
| 70 | Insulin Human (Affreza) | 2014 | 100 unit | 100 unit/mL | X | Polysorbate 80 | Fumaryl Diketopiperazine |  |  |  |  |  |  |
| 71 | Interferon alfa-n1 (Avonex) | 2003 | 3 unit | 6 unit/mL | Sodium Phosphate  | Sodium Chloride | Albumin |  |  |  |  |  |  |
| 72 | Interferon beta-1b (Extavia)  | 1995 | 0,3 mg | 0,25 mg/mL | X | Albumin | Mannitol |  |  |  |  |  |  |
| 73 | Interferon beta-1b (Betaseron)  | 2000 | 0,3 mg | 0,25 mg/mL | X | Albumin | Mannitol |  |  |  |  |  |  |
| 74 | Lenograstim (Granocyte) | X | 263 mg | 263 mg/mL | X | Mannitol | L-Methionine | Arginine | Polysorbate 20 |  |  |  |  |
| 75 | Lutropin alfa (Luveris) | 2005 | 75 unit | 82,5 unit/mL | Sodium Phosphate  | Sucrose | Polysorbate 20 | L-Methionine |  |  |  |  |  |
| 76 | Menotropins (Menopur) | 2006 | 75 unit | 37,5 unit/mL | Sodium Phosphate  | Lactose | Polysorbate 20 |  |  |  |  |  |  |
| 77 | Menotropins (Repronex) | 2003 | 75 unit | 37,5 unit/mL | Sodium Phosphate  | Lactose |   |  |  |  |  |  |  |
| 78 | Mepolizumab (Nucala) | 2015 | 100 mg | 100 mg/mL | Sodium Phosphate  | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 79 | Metreleptin (Myalept) | 2014 | 11,3 mg | 5,14 mg/mL | Glutamic Acid | Glycine | Polysorbate 20 | Sucrose |  |  |  |  |  |
| 80 | Omalizumab (Xolair) | 2003 | 150 mg | 145 mg/mL | Histidine | Sucrose | Polysorbate 20 |  |  |  |  |  |  |
| 81 | Palifermin (Kepivance) | 2009 | 6,25 mg | 5 mg/mL | Histidine | Mannitol | Polysorbate 20 | Sucrose |  |  |  |  |  |
| 82 | Parathyroid hormone (Natpara) | 2013 | 0,8 mg | 0,8 mg/mL | Citrate | Sodium Chloride | Mannitol |  |  |  |  |  |  |
| 83 | Peginterferon alfa-2b (PEG-Intron/PEG-Intron Redipen) | 2001 | 0,05 - 0,15 mg | 0,1 mg/mL | Sodium Phosphate  | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 84 | Peginterferon alfa-2b (Sylatron) | 2001 | 0,05 - 0,15 mg | 0,1 mg/mL | Sodium Phosphate  | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 85 | Pembrolizumab (KEYTRUDA) | 2014 | 50 mg | 25 mg/mL | Histidine | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 86 | Protein C (Ceprotin) | 2010 | 500 unit | 100 unit/mL | Citrate | Albumin | Sodium Chloride |  |  |  |  |  |  |
| 87 | Prothrombin Complex Concentrate (Kcentra) | 2013 | 500 unit | 25 unit/mL | Citrate | Albumin | Sodium Chloride |  |  |  |  |  |  |
| 88 | Rasburicase (Elitek) | 2002 | 1,5 - 7,5 mg | 1,5 mg/mL | Sodium Phosphate  | Mannitol | Alanine |  |  |  |  |  |  |
| 89 | Reteplase (Retavase) | 1999 | 18,1 mg | 1,81 mg/mL | Sodium Phosphate  | Sucrose | Polysorbate 80 |  |  |  |  |  |  |
| 90 | Rilonacept (Arcalyst) | 2008 | 220 mg | 80 mg/mL | Histidine | Arginine | Polyethylene Glicol | Sucrose | Glycine  |  |  |  |  |
| 91 | Romiplostim (Nplate) | 2008 | 0,25 - 0,5 mg | 0,5 mg/mL | Histidine | Mannitol | Sucrose | Polysorbate 20 |  |  |  |  |  |
| 92 | Sargramostim (Leukine) | 1991 | 0,25 mg | 0,5 mg/mL | X | Mannitol | Sucrose | Tromethamine |  |  |  |  |  |
| 93 | Scorpion (centruroides) immune Fab2 antivenin (Anascorp) | 2011 | 120 mg | 24 mg/mL | X | Sodium Chloride | Sucrose | Glycine |  |  |  |  |  |
| 94 | Secukinumab (Cosentyx) | 2015 | 150 mg | 150 mg/mL | Histidine | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 95 | Siltuximab(Sylvant) | 2014 | 100 mg | 20 mg/mL | Histidine | Polysorbate 80 | Sucrose |  |  |  |  |  |  |
| 96 | recombinant human coagulation factor VIII - Simoctocog Alfa (Nuwiq) | 2015 | 500 unit | 20 uni/mL | Citrate | Sodium Chloride | Sucrose | Arginine | Calcium Chloride | Poloxamer 188 |  |  |  |
| 97 | Somatropin recombinant (Genotropin) | 2013 | 10 mg | 5 mg/mL | Sodium Phosphate  | Glycine | Mannitol |  |  |  |  |  |  |
| 98 | Somatropin recombinant (Saizen/Serostim)  | 1999/1997 | 10 mg | 5 mg/mL | X | Sucrose |   |  |  |  |  |  |  |
| 99 | Susoctocog alfa (Obizur) | 2015 | 500 unit | 20 unit/mL | Citrate | Sodium Chloride | Tris | Calcium Chloride | Sucrose | Polysorbate 80 |  |  |  |
| 100 | Taliglucerase Alfa (Elelyso) | 2012 | 200 unit | 40 unit/mL | Citrate | Mannitol | Polysorbate 80 |  |  |  |  |  |  |
| 101 | Tenecteplase (Tnkase) | 2001 | 50 mg | 5 mg/mL | X | Arginine | Polysorbate 20 |  |  |  |  |  |  |
| 102 | Thyrotropin Alfa (Thyrogen) | 1998 | 1,1 mg | 0,9 mg/mL | Sodium Phosphate  | Mannitol | Sodium Chloride |  |  |  |  |  |  |
| 103 | Trastuzumab (Herceptin) | 1999 | 440 mg | 22 mg/mL | Histidine | Trehalose | Polysorbate 20 |  |  |  |  |  |  |
| 104 | Turoctocog alfa (Novoeight) | 2013 | 1500 unit | 375 unit/mL | Histidine | Sodium Chloride | Sucrose | Polysorbate 80 | L-Methionine | Calcium Chloride |  |  |  |
| 105 | Urofollitropin (Bravelle) | 2002 | 82,5 unit | 82,5 unit/mL | Sodium Phosphate  | Lactose | Polysorbate 20 |  |  |  |  |  |  |
| 106 | Urofollitropin (Fertinex) | 2004 | 75 unit | 75 unit/mL | X | Lactose |   |  |  |  |  |  | 0.9% saline for reconstitution |
| 107 | Vedolizumab (Entyvio) | 2014 | 300 mg | 60 mg/mL | Histidine | Arginine | Sucrose | Polysorbate 80 |  |  |  |  |  |
| 108 | Velaglucerase alfa (VPRIV) | 2010 | 400 unit | 100 unit/mL | Citrate | Sucrose | Polysorbate 20 |  |  |  |  |  |  |
| 109 | Von Willebrand Factor Human (Alphanate) | 2007 | 250 - 2000 unit | 50 unit/mL | Histidine | Albumin | Arginine |  |  |  |  |  |  |