European Medicines Agency Evaluation of Medicines for Human Use

London, October 2006 Doc. Ref: EMEA/435350/2006

ASSESSMENT OF THE PAEDIATRIC NEEDS ANTIINFECTIOUS THERAPY WITH FOCUS ON ANTIMYCOTICS, ANTIVIRALS (EXCEPT HIV)

DISCLAIMER

The Paediatric Working Party (PEG) is working to identify the needs in the different therapeutic areas where there should be research and development of medicinal products for children, either old (i.e. off patent) or new ones (including those under development). Products on the list are not in any order of priority.

The lists should not be viewed as a prescription tool nor as recommendations for treatment. Accuracy of data including in particular authorised doses cannot be guaranteed.

Information on existing marketing authorisations is very limited and therefore information under "authorised" includes the indication in broad term (only related to chemotherapy), the lower age group authorised in at least one Member State, the authorised dose(s) (if authorised for use in patients less than 18 years of age) and formulation(s) in at least in one Member State.

Please refer to the EMEA/PEG procedure for identifying the paediatric needs for further information.

Comments from third parties are expected especially to complete and or update the list as necessary.

AGREED BY PAEDIATRIC WORKING PARTY (PEG)	20 October 2006
ADOPTION BY CHMP FOR RELEASE FOR CONSULTATION	16 November 2006
END OF CONSULTATION (DEADLINE FOR COMMENTS)	31 May 2007

Comments should be provided to: peg@emea.europa.eu or by fax +44 20 7523 7040 using the following template.

If not stated separately, the need for availability in all Member States of the Community applies to all medicinal products included in this list.

ANTIMYCOTICS					
ITRACONAZOLE					
Authorised indication	Treatment of oral and/or oesophageal candidosis in HIV-positive or other				
	immunocompromised patients				
Authorised age group	>18 years				
Authorised dose	-				
Authorised formulation	Solution for i.v. infusion, capsules, oral solution				
Needs	PK, efficacy and safety data < 18 years				
	AMPHOTHERICIN B				
Authorised indication	Severe systemic and/or deep mycoses such as coccidioidomycosis,				
	cryptococcosis, candidosis, histoplasmosis, leishmaniasis, blastomycosis;				
	Treatment of suspected mycosis in neutropenic febrile patients:				
	Prevention of candidosis				
Authorised age group	Suspension: Children > 1 month (intestinal candidiasis), Neonates: prophylaxis				
	i.v. formulation: Children: age limit not specified				
	Lipid formulation: Children: age limit not specified				
Authorised dose	0.25mg/kg of body weight gradually increasing to a level of 1.0mg/kg of body				
	weight depending on individual response and tolerance (Fungizone)				
	1.0 mg/kg of body weight, increased stepwise to 3.0 mg/kg (Ambisone)				
Authorised formulation	Fungizone: Oral suspension 10% for children, infants; capsule, liposomal forms,				
	suspension for injection				
Needs	Define lower age limit based on data on efficacy and safety and investigate				
	where needed. Full Development needed in neonates				
VORICONAZOLE					
Authorised indication	Invasive aspergillosis, candidaemia in non-neutropenic patients, fluconazole-				
	resistant serious invasive <i>Candida</i> infections (including <i>C. krusei</i>), serious				
	fungal infections caused by <i>Scedosporium</i> spp. and <i>Fusarium</i> spp.				
Authorised age group	> 2 years				
Authorised dose	i.v. 7 mg/kg twice daily; oral 200mg (5 ml) twice daily				
Authorised formulation	50 mg and 200 mg film-coated tablets, 200 mg powder for solution for infusion,				
	40 mg/ml powder for oral suspension				
Needs	Data on PK, efficacy and safety < 2 years				
	FLUCONAZOLE				
Authorised indication	Candidosis, cryptococcal meningitis and other cryptococcal infections (skin,				
	lung), candida prophylaxis and treatment in immunocompromised patients				
Authorised age group	> 4 weeks				
Authorised dose	3mg/kg daily				
Authorised formulation	Capsules 50, 100, 150mg, solution for i.v. infusion 2mg/mL, powder for oral				
	suspension 10, 40, 50, 200mg				
Needs	Data on PK, efficacy and safety < 4 weeks				
	POSACONAZOLE				
Authorised indication	Treatment of the following invasive fungal infections in adults:				
	- Invasive aspergillosis in patients with disease that is refractory to amphotericin B or				

	itraconazole or in patients who are intolerant of these medicinal products;
	- Fusariosis in patients with disease that is refractory to amphotericin B or in patients who are intolerant of amphotericin B;
	- Chromoblastomycosis and mycetoma in patients with disease that is refractory to itraconazole
	or in patients who are intolerant of itraconazole;
	- Coccidioidomycosis in patients with disease that is refractory to amphotericin B, itraconazole
	or fluconazole or in patients who are intolerant of these medicinal products.
	Refractoriness is defined as progression of infection or failure to improve after a minimum of 7 days of prior therapeutic doses of effective antifungal therapy.
Authorised age group	> 18 years
Authorised dose	-
Authorised formulation	Oral suspension
Needs	Data on PK, efficacy and safety <18 years
	CASPOFUNGIN
Authorised indication	Invasive candidiasis, invasive aspergillosis refractory to or intolerant of
	amphotericin B, lipid formulations of amphotericin B and/or itraconazole.
	Empirical therapy for presumed fungal infections (such as <i>Candida</i> or
	Aspergillus) in febrile, neutropenic adult patients
Authorised age group	> 18 years
Authorised dose	
Authorised formulation	Powder for reconstitution for infusion
Needs	Data on PK, efficacy and safety < 18 years
iveeus	Age appropriate formulation
	Age appropriate formulation
ANTI VIRALS (HERPI	ES VIRUS, CYTOMEGALY VIRUS)
·	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR
·	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in
·	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of
·	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic
·	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia
Authorised indication	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic
Authorised indication Authorised age group	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia
Authorised indication Authorised age group Authorised dose	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia
Authorised indication Authorised age group Authorised dose Authorised formulation	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years -
Authorised indication Authorised age group Authorised dose Authorised formulation	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg
Authorised indication Authorised age group Authorised dose Authorised formulation	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation
Authorised indication Authorised age group Authorised dose Authorised formulation Needs	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection
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Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation Needs	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation Needs	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR Treatment of herpes zoster infections, treatment of herpes simplex (HSV-1 and
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR Treatment of herpes zoster infections, treatment of herpes simplex (HSV-1 and HSV-2) infections, prevention of recurrent herpes simplex infections,
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised indication	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR Treatment of herpes zoster infections, treatment of herpes simplex (HSV-1 and HSV-2) infections, prevention of recurrent herpes simplex infections, Prevention of post-transplant cytomegaly virus infection
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised group Authorised group	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR Treatment of herpes zoster infections, treatment of herpes simplex (HSV-1 and HSV-2) infections, prevention of recurrent herpes simplex infections,
Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised age group Authorised dose Authorised formulation Needs Authorised indication Authorised indication	ES VIRUS, CYTOMEGALY VIRUS) FAMCICLOVIR Acute herpes zoster infections, herpes zoster and herpes simplex infections in immunocompromised patients, treatment of genital herpes and prevention of recurrent genital herpes infections. Reduction of duration of postherpetic neuralgia > 18 years - Tablets 500, 250, 125mg Data on PK, efficacy and safety < 18 years Age appropriate formulation GANCICLOVIR Severe CMV infection > 18 years - - Data on PK, efficacy and safety (including long-term safety) < 18 years VALACICLOVIR Treatment of herpes zoster infections, treatment of herpes simplex (HSV-1 and HSV-2) infections, prevention of recurrent herpes simplex infections, Prevention of post-transplant cytomegaly virus infection

Needs	Data on PK, efficacy and safety < 18 years			
110000	Age appropriate formulation			
VALGANCICLOVIR				
Authorised indication	CMV treatment and prophylaxis			
Authorised age group	> 18 years			
Authorised dose	-			
Authorised formulation	Injection solution 500mg			
Needs	Data on PK, efficacy and safety < 18 years			
	Age appropriate formulation			
	Availability in all Member States			
CIDOFOVIR				
Authorised indication	CMV retinitis in aquired immunodeficiency			
Authorised age group	> 18 years			
Authorised dose	5 mg/kg i.v. infusion once daily for 14 days			
Authorised formulation	Infusion solution			
Needs	PK, efficacy and safety <18 years			
FOSCARNET				
Authorised indication	Severe CMV and HSV infection			
Authorised age group	Adults (France, United Kingdom, Germany)			
Authorised dose	-			
Authorised formulation	Solution for infusion			
Needs	Data on PK, efficacy and safety <18 yrs			
BRIVUDINE				
Authorised indication	Severe HSV infection			
Authorised age group	> 18 years			
Authorised dose	125 mg			
Authorised formulation	Tablets			
Needs	Data on PK, efficacy and safety <18 years			
	Availability in all Member States			
ANTI VIRALS (HEPAT	TITIS AND OTHER)			
,	LAMIVUDINE			
Authorised indication	Chronic hepatitis B			
Authorised age group	> 18 years			
Authorised dose	- y			
Authorised formulation	Film coated tablets, 100mg, oral solution 10mg/ml			
Needs	Data on PK, efficacy and safety < 18 years			
. 2	RIBAVIRINE			
Authorised indication	In combination with interferon for chronic hepatitis C			
Authorised age group	> 3 years (in combination with interferons alpha 2b)			
Authorised dose	-			
Authorised formulation	Capsules, oral solution			
Needs	Data on efficacy and safety (including long-term safety) < 3 years			
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AMANTADINE				
Authorised indication	Prophyaxis and treatment of influenza A			
Authorised age group	> 2 years (Finland)			

Authorised dose	50-200mg depending on age			
Authorised formulation	Capsules 100mg, Tablets 100mg			
Needs	Data on efficacy and safety < 2 years			
OSELTAMIVIR				
Authorised indication	Treatment and prevention of influenza A and B			
Authorised age group	> 1 year			
Authorised dose	Treatment:			
	Children > 1 years: 75 mg twice daily for 5 days			
	Prevention:			
	Children > 1 years: 75 mg once daily for 10 days			
Authorised formulation	75 mg capsules, oral solution			
Needs	PK, efficacy and safety < 1 year			
INTERFERON ALFA 2a				
Authorised indication	Hepatitis B and C			
Authorised age group	Adults			
Authorised dose	-			
Authorised formulation	Prefilled syringe containing solution for injection 18MIU/0.6mL			
Needs	PK, efficacy and safety < 18 years			
	Age appropriate formulation (without benzylalcohol)			
PEGINTERFERON ALFA 2a				
Authorised indication	Hepatitis B and C			
Authorised age group	> 18 years			
Authorised dose	> 10 years			
Authorised formulation	Solution for injection 135, 180 µg/0.5 mL			
Needs	PK, efficacy and safety < 18 years			
recus	Age appropriate formulation			
	INTERFERON ALFA 2b			
Authorised indication	Hepatitis C (children)			
Authorised age group	> 3 years			
Authorised dose	3 Mio IU (in combination with ribavirin)			
Authorised formulation	Solution for injection			
Needs	Age appropriate formulation in all Member States			
PEGINTERFERON ALFA 2b				
Authorised indication	Hepatitis C			
Authorised age group	> 18 years			
Authorised dose	-			
Authorised formulation	Powder for solution for injection			
Needs	PK, efficacy and safety < 18 years			
	Age appropriate formulation			
	INTERFERON Alfacon-1			
Authorised indication	Chronic hepatitis C			
Authorised age group	> 18 years			
Authorised dose	-			
Authorised formulation	Solution for injection 9 μ g/ 0.3 ml (9 μ g = 9 MioUnits)			
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Needs	PK, efficacy and safety < 18 years Age appropriate formulation			
INTERFERON Beta-1				
Authorised indication	Multiple sclerosis			
Authorised age group	> 16 years			
Authorised dose	-			
Authorised formulation	Solution for injection 22, 44 µg/0.5 mL			
Needs	PK, efficacy and safety < 16 years			
	Age appropriate formulation			

The PEG considers that there is no need for additional data for the following products:

ACICLOVIR